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POLITICAL ECONOMY AND PUBLIC LAW SERIES.

EDMUND J. JAMES, Ph. D., Editor.

Vol. III.

WHOLE NUMBER IN SERIES, II.

No. 2.

THE THEORY OF  
DYNAMIC ECONOMICS.

BY

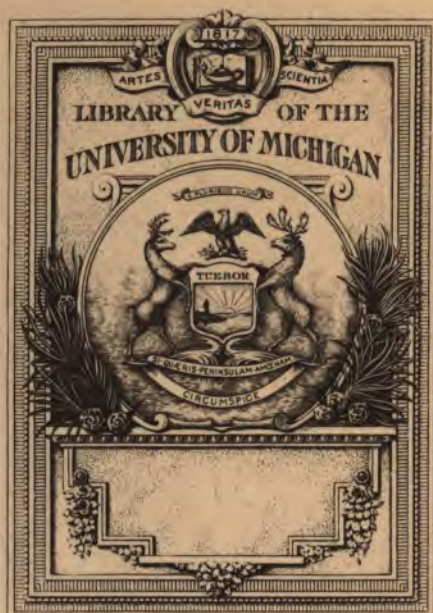
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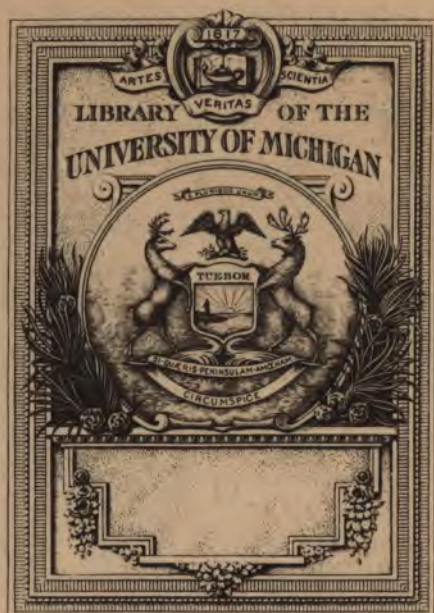
Professor of Political Economy,  
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University of Pennsylvania.

PHILADELPHIA.

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## INTRODUCTION.

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There are two possible starting points for economic investigation—man or nature. If we begin with man the fundamental premises lie in the subjective differences in men. If we begin with nature, the objective differences in nature form the first premises. The physiocrats to whom the classical system owes its origin began with the environment of man, and created a science out of the conditions that limit the actions of men. As they lived in an age when the physical sciences engrossed the attention of scholars, it is not strange that they should model the science of economics after the physical sciences cultivated at that time. This radically wrong, although highly necessary, beginning of the science brought with it a train of evils which have not yet been eliminated. It has led its investigators to esteem too highly some of those laws which rest directly upon a physical background. Men who look upon physical laws and physical standards as more exact and more definite than those laws of a subjective nature state them in a form which tends to hide their real character. They regard the physical and objective as fundamental, while the subjective and mental are brought in only as modifying conditions. The ideas of the physiocrats did not die with them; their successors continued to imitate the methods of the physical sciences, and tried to measure economic forces by objective standards.

Adam Smith was the first to make a conscious and important use of subjective premises. English investigators in morals had shown that the actions of men are independent phenomena, having laws of their own. Adam Smith thus came by inheritance and early education into the possession of a body of knowledge, and a way of looking at social and industrial affairs which was out of the

reach of his predecessors in France. He had only to obtain the results of their investigations to be placed in a position to reconstruct the science. He was, however, too much influenced by them to avoid their leading errors, and hence his theories are in many respects in harmony with, if not, the direct outcome of their general point of view.

These tendencies towards a greater use of subjective laws in economics were checked by Ricardo. The law of rent vitalized and co-ordinated all the physical elements of the science. By uniting in an organic whole certain objective features of the economic world Ricardo gave a vivid picture of the structure of society which has ever since been the charm of those who delight in deductive reasoning. While he makes differences in the objective world the basis of his reasoning he overlooks the importance of those of a subjective nature. They remain in an inductive form without any definite arrangement. He was thus enabled to make a free use of subjective facts and at the same time to harmonize them with the objective premises that lie at the basis of his system.

The stability of the classical system can be disturbed from two directions—either by those who distrusted the deductive method and hence valued the deductive part of their work less highly than the classical economists did, or by those who had greater confidence in subjective laws, and hence sought to change the subjective elements of political economy into a deductive form. Destructive criticism and constructive efforts would have the same general effect. They would both lead to the formation of a new political economy in which man would be the center point. The progress of civilization has become so great that any fair application of the inductive method must show the supremacy of man over nature. And if any unbiased, deductive thinker should seek for differences upon which to base his deductions he could not but see that differences in men were of greater importance in explaining economic phenomena than differences in nature.

It was natural that the first reaction against the classical economists should be inductive in form. The better knowledge of the laws of agricultural production which his

residence in a new country gave him, enabled Carey to cast a doubt upon those physical laws which the classical school used as the basis of their reasoning. It was no longer possible to defend a system of political economy that determined the productive power of a society, and the income of its members, solely by making deductions from the laws of rent, and of diminishing returns. The inductive and historical work of the German economists was of far greater importance, because it brought to light a mass of facts relating to the progress of society, and the evolution of man. The result of these inductive and historical studies changed the character of political economy and reversed the order in which it is studied. It became less physical and more subjective in its character, and instead of proceeding from nature to man, it became evident that economists must begin with the study of man and end with a study of the relation of man to nature.

While inductive thinkers could escape from the dominion of the classical school in the way discovered by Carey and the German economists, this road was not open to those who were deductive in their thinking. They could not consistently contest deductive conclusions with a mere appeal to inductive facts. They were compelled to take up the subjective elements of the science which the classical school had not properly utilized, and change them into a deductive form. Those who were not satisfied with deductions from differences in physical nature, must use differences in man as the basis of their reasoning. From these differences in men they must construct a subjective economy that will bind together in a harmonious whole all our knowledge of the influence of men upon economic phenomena. What the old economists did for the physical laws of the science they seek to do for the mental laws. Such economists must be more deductive than their predecessors because they are extending the use of deduction over a vast field to which the deductive method had never been applied. They must at the same time be more inductive because the premises they seek cannot be obtained by simple inspection. Only a care-

ful investigation of history and facts will give the basis upon which they must build.

It is not my purpose to present a complete system of economics, based upon subjective phenomena. Much of the work leading to that end has been too well done to need a repetition. I shall, however, use my studies to furnish fresh illustrations of the importance of such a system, and of the possibility of applying its principles to other fields than those in which they are already in use.\* I am interested in the problems of the consumption of wealth, and have tried to develop a theory of this subject. My main endeavor will be to show that the theory of consumption furnishes a better basis for the theories of value and of distribution than the accepted theory of cost of production. If this change is made the theory of production becomes independent of the theory of distribution, and can be presented in a way more capable of showing the causes of progress and prosperity. An especial emphasis will also be given to the causes determining the standard of life. It will, however, be necessary to direct attention, first of all, to the history of economic theory, since many of the difficulties in the reconstruction of these theories lie in the interpretation of their history.

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\*See the writer's *Premises of Political Economy and Consumption of Wealth*.

# THE THEORY OF DYNAMIC ECONOMICS.

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## I.

### HISTORY OF ECONOMIC THEORY.

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The history of economic theory, and the relation between its different parts, can be studied best by taking up in succession the various economies that have been given us by the great economists. There is a marked difference between the sum of the theories advocated by a given group of economists, and the economy they have formed and left as an inheritance for posterity to study. A theory is a hypothetical statement of how certain forces would act if they were isolated from their concrete surroundings. There might be a large number of theories current at a given time, and yet form no economy if the suppositions on which they rest did not in many respects harmonize. In the mercantile school there were many doctrines to be found, yet they were collected from so many sources, and in so empirical a manner, that out of their writings the reader does not get a clear idea of the economic forces whose action determines the industrial activity of the age.

An economy is more than a body of related doctrines, because it presupposes certain mental characteristics of the people; a given state of progress of the mechanical arts as well as certain peculiarities of soil and climate. Many economists have tried to eliminate all facts and suppositions that depend upon local, natural or other concrete considerations, and

create a theory of economics that shall have universal validity. No such economy, however, has as yet appeared. Those who have followed this plan have either magnified a few doctrines out of all proportion to their true value, or they have kept in a hazy background the concrete industrial facts of some nation at a given point of its progress. An economy does not include all the facts of a society at a given time, but only those that have been assimilated by the economists who study this society, and used by them as a basis of their theories. Take away all the concrete facts, and the theories they form will be merely unrelated assumptions. Give all the facts an equal prominence and nothing but crude empirical laws can be found. An economy is thus a picture of a given nation, as its economists see it. It is in many regards an abstraction, with however enough of concrete reality to present a vivid picture of the industrial life of the people.

The intellectual process by which an economy is created is the same as that used in forming a theory. Both are abstract and consider some parts of economic phenomena to the exclusion of the remainder. In forming a theory a given class of facts is separated from the aggregate phenomena that make the social organism, and so arranged that the law can be seen. In an economy, however, the social organism is abstracted from a mass of discordant facts that tend to hide the working of its general laws. The society, as a whole, and the leading features of its environment now become prominent, and its laws can be correlated into a system. The neglect of unimportant facts gives an emphasis to the salient facts of society as a fog upon the low hills and valleys brings out the leading features of a mountain range.

The history of economics is made up of a series of such economies. As modern society has developed out of one stage into another there have been corresponding changes in the concrete background upon which the economists base their theories. Many of the old theories give way to those which conform more closely to the prominent characteristics of the new age. A new body of correlated theories soon

grows up which form an economy quite distinct from that of the preceding age.

I shall not try to present a history of various economic theories as they present themselves when isolated from the system of thought of which they are a part. Such a course would occupy too much space, and would hinder rather than further the end I have in view. I want merely to keep in sight a bold outline of the succeeding economies, so that the line of progress becomes distinct. Only from the general trend of economic thought can it be made clear that the new theories of value and consumption are parts of a progressive movement, and the center points of a new economy which is arising out of the industrial facts of the present age.

## II.

## THE ECONOMY OF THE PHYSIOCRATS.

In the sense in which I use the term, the first economy was created by the physiocrats in France. They lived in an age when the physical sciences engrossed the attention of all scholars. The materialistic ideas coming from these sciences dominated all thinkers, and tended to make them look upon man as the mere outcome of the mechanical forces that acted upon him. It is not strange therefore that when men saturated with these ideas, began the study of industrial affairs, they should seek to erect an economic science modeled after the physical sciences. In the history of the theory of economics nothing is more marked than the dominant influence of the ideas which its investigators bring with them from the sciences they have previously studied. We have not only a physical conception of economic science, but also a moral, a mathematical, an historical, and we shall have many other like conceptions of the science as men with different education and new ideas are attracted from other fields of investigation into the study of social affairs.

It is also difficult to see how a beginning in economic theory could have been made by any other class of thinkers, or how any economy could have preceded that of the physiocrats. By the ordinary thinkers of that age social and mental phenomena were regarded as outside of the realm of law. Such men have been opponents of all mental sciences until they were forced to give up their opposition on account of the success of these sciences in the hands of those who believed in the universal reign of law. When these scientists began to look for laws in the industrial world the most obvious of them were the physical laws that operate from without upon men and society, and determine the trend of industrial progress. The people of a nation are looked

upon in the same light as the drops of water that fall from the clouds. The physical characteristics of the land seem to fix the line of progress of its inhabitants as fully as they do the direction in which the water flows.

The economic condition of France at this time was favorable to the development of a purely physical economy. The isolation of producers and the primitive condition of their industries made the return for their labor so meagre that there was little surplus after the expenses of production were paid. It was easy under these conditions to look upon the services of the manufacturer and merchant as sterile, securing their profits, not from what they produce, but from the surplus of the farmer. The aid of natural forces seems necessary to get a net product where the struggle for a living was as severe as among the producers of France at this time. The physiocrats could easily overlook every subjective condition of production, and build up an economy as physical and material as the sciences that were used as models. It should be noticed that their science was not a science of man, but of the conditions that limit the actions of men. No appeal is made to subjective motives in men. The line along which men must move is made apparent by revealing the obstacles that nature puts in the way of any other line of action. Prices cannot be higher than they are because consumers have no more to give. Neither can they be lower because producers cannot live on less than they have. There must be a surplus in production above the minimum needs of producers before any subjective laws can influence the distribution of what is produced. Neither the law of cost of production nor of final utility is of importance where the maximum of production is not more than the minimum of consumption. The surplus which the aid of nature gives in agriculture goes directly into the hands of a particular class, from which it can be taken for public purposes only by means of taxation. All distribution, therefore, follows political and not economic laws, and becomes a part of morals and politics.

## III.

## THE OPTIMISTIC ECONOMY OF ADAM SMITH.

In the writings of Adam Smith subjective laws were, for the first time, consciously introduced into political economy. While the thinkers of France had been devoting themselves solely to the study of material forces and physical laws, English investigators had brought mental science into prominence. The actions of men were no longer looked upon as the direct result of objective forces. Subjective phenomena were now studied as an independent class, requiring special investigation and having laws of their own. While the mental laws may have a physical background, the relation between the two is so obscure that no deductions from the latter were of much importance in studying the actions of men. A series of new sciences now became possible, which were to be cultivated by men of instincts other than those that dominate the investigators of the physical sciences. To them the subjective facts were fundamental, and the laws of the mind were as exact and its phenomena as capable of measurement as were those of the material world.

Adam Smith's confidence in subjective laws is shown by the use he made of them. He traced the influence of self-interest in all economic activities with a master hand, and showed how its action forced men to do of themselves a multitude of useful acts which previous thinkers thought men would not do unless compelled by physical laws or by the power of the State. He showed how the increase of capital depended upon the growth in men of an instinct to save. He claimed that the division of labor, from which so many advantages are derived, came from a propensity of human nature to barter and exchange one thing for another. The causes that increase wealth were subjective, and progress depended upon the growth of mental qualities.

By the aid of these principles he was able to show that land was not the sole source of the net revenue of society. The return obtained from the factory and from commerce is greater than the expenditure of labor in the same sense that the return from land is greater than the labor of farmers. What nature does in agriculture, intelligence and co-operation do in the manufacture and exchange of commodities. There is now a margin of possible fluctuation of prices between the highest price for goods that consumers can afford to pay, and the lowest price that producers can afford to take. Under these conditions a theory of value first becomes of importance, and in Adam Smith's solution of this problem the first great appeal was made to subjective forces. He showed how the action of self-interest causes producers to take the lowest possible price. We now have for the first time in its most general form the theory of the cost of production as the regulator of value. The value of each commodity is assumed to be equal to the cost of its production, and hence in the value of commodities we have an exact measure of their cost. Commodities tend to exchange for one another according to the amount of labor expended upon them. The increase of productive power, therefore, tends to lower prices, and to create a net surplus to be enjoyed by all consumers. This net surplus is equal to the difference between the total utility of the commodities consumed and the total cost of their production, or what is the same, their total value; and this surplus is increased by whatever lowers the cost of production.

The optimistic economy of Adam Smith is based upon these facts and tendencies. Its leading features are the identity of cost and value, and the decreasing proportion in which the total value of commodities stands to their total utility in a society which is improving its processes of production. There is also a large quantity of free goods, those too abundant to be appropriated. Join these with the benefits of the net surplus of other commodities, and there arises a general plenty which diffuses itself among all ranks of society.

## IV.

## THE PRIMITIVE ECONOMY OF RICARDO.

The optimistic hopes of social progress and general prosperity were, of necessity, short-lived. We may shut our eyes for a time to disagreeable facts, and make a pleasing economy out of what remains. But in the end the unpleasant side of industrial life will force itself upon our attention and make us look for its causes and remedies.

This task fell to Ricardo,\* and in his writings we must seek an economy corresponding to the new conception of the industrial world. The central thought of his system is the effect of scarcity of supply upon the value of commodities. He saw that the relative scarcity of an article gives it a value much above its cost of production. With this improved analysis of value he could deduce that the exchangeable value of commodities came from two sources: from their scarcity and from the quantity of labor required to obtain them. This valuable distinction would have probably been of little use to him had not the laws of rent and of diminishing returns been discovered by his contemporaries, Malthus and West. With the aid of this material he had the key to the distribution of wealth.

Adam Smith viewed the processes of production from a national standpoint, and dwelt solely upon the increase of productive power that comes with the advance of civilization. He assumed that the results of increased production would be fairly distributed, and believed that the reduction of the value of all commodities to their cost of production was the means by which the just distribution was accomplished. Ricardo was the first to see the falsity of this assumption. The relative scarcity of some articles causes their price to

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\*See the writer's *Malthus and Ricardo*, publications of the American Economic Association, Vol. IV., No. 5.

rise, and the average man loses in this way what he gains by the lower price of other articles. If scarcity is a cause of value the total exchangeable value of commodities is no longer the same as their total cost. A part of the net surplus above the total cost of production is appropriated by the owners of scarce products, instead of going to consumers as free surplus.

The optimistic deductions of Adam Smith were thus overthrown by the doctrines of Ricardo. Through the action of the law of diminishing returns the difference between total cost and total utility decreases instead of increasing in a progressive society. Total values, however, have increased much more rapidly than total cost as a result of the growth of rent.

To this latter fact I wish to call special attention, because its importance to economic theory has not been fully appreciated. Before Ricardo saw the effect of scarcity on value, it was assumed that total values never exceeded total cost, and that all the difference between the total utility, which a society gets from its economic environment, and the total cost of all commodities goes to consumers as free goods or net surplus. Both doctrines are false if scarcity is a cause of value. The possession of the relatively scarce articles enables their owners to appropriate a part of the net surplus through the great increase of total values that results from the scarcity of these articles. In a progressive society, therefore, the total value of all commodities is much greater than their total cost. The net surplus above the cost of production no longer goes entirely to consumers. Producers who possess articles that are relatively scarce compel consumers to give up a part of the net produce to them. Total values under these conditions form an increasing part of total utility, even though the proportion of total cost to total utility is decreasing.

The economy of Ricardo stands in the same relation to the theory of distribution in which the economy of the physiocrats stands to that of production. The physiocrats saw the natural causes that create a net surplus in production.

Ricardo saw the causes that lead to natural monopolies in distribution. He naturally chose the strongest case—the scarcity of the better grades of land. People are more easily impressed with physical differences and their effects than with the subjective differences in men. Differences in land also become apparent at a much earlier stage of economic progress than do those in men.

Ricardo's procedure was natural and necessary, yet it has lead to many serious errors. The physiocrats were right in saying there is a surplus from land, but wrong in saying there is a surplus only from land. Ricardo was right in saying that there are natural monopolies that raise the value of food above the cost of production on the better lands. He was, however, wrong in implying that these natural monopolies were the only monopolies arising out of economic conditions. The tendency of the different factors in production to increase is never the same, and hence when more land, more capital, more labor and more intelligence are wanted by a progressive society those factors that tend to increase the most slowly, become relatively scarce, and must be paid for at monopoly rates.

The economy of Ricardo and his theory of cost assumes a primitive society before superior intelligence became necessary to efficient production. He never refers to production on a large scale. All his illustrations of exchanges are from primitive conditions. A shoemaker exchanges with a tailor, and a hatter with a baker. In such a society scarcity affects the value of only a few articles like food, and the distinction between commodities that are freely produced and those that are not, is clear and important. When, however, hatters, shoemakers, tailors and other producers are formed into large productive groups to increase the efficiency of production, the higher intelligence needed to organize production is a scarcer factor than the better grades of land, and is the source of more monopolies. Some element of monopoly is now everywhere, and causes the value of all commodities to be greater than their cost, except, perhaps, those made at the margin of production. The difference between com-

modities that are freely produced and those that are not, ceases to be of importance. Both classes merge into one, since each commodity needs for its production certain elements that are relatively scarce and others that are not.

The omissions of Ricardo, and even his errors, served only to strengthen his economy. They enabled him to unite in an organic whole the leading features of the economic world, and give a vivid picture of the structure of society. His economy was stable because he drew its elements equally from subjective and objective sources. An analysis of his system shows that it is based on six premises. Two are subjective—self-interest and the sexual passion. Two are objective—differences in the fertility of soils, and the diminishing returns in agriculture. The remaining two are taken from the results of civilization—the use of capital, and the division of labor. The last two premises give the causes of the net surplus that society has to distribute, and the objective premises furnish the laws which determine its distribution. Self interest causes men to economize labor and to increase wealth, while the sexual passion leads to the increase of population, and is the cause of low wages, misery and vice. Here is a world with six of its mountains reflecting the full light of the sun, while all the foothills and valleys are shrouded in a mist.

It is no wonder that so clear and so simple a picture of a society and its economic laws should fascinate economists, nor that the strength of the theory should resist many well-directed attacks. In spite of its stability and strength, the economy of Ricardo is highly artificial. The first two premises give us a primitive man; the second two a primitive world, unmodified by man. The last two premises, however, presuppose a civilization that it is not possible for a primitive man to have in a primitive world. If a society has capital and division of labor, the results of civilization will react on the primitive man and the primitive world, and create a new man in a new world. The results of civilization will, therefore, grow in importance, and the influence of the first four premises will gradually diminish until the

stability of the system is so much disturbed that a new point of equilibrium must be sought by grouping the facts in some new system. Strong and stable as it was, the economy of Ricardo had in it the seeds of destruction. How they grew the subsequent development of economics must show.

## V

THE PROGRESSIVE ECONOMY OF MILL.

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The economy of Mill is a natural sequence of that of Ricardo. He was charmed by the vividness of the Ricardian ideas, and yet owing to the growing importance of new economic facts he was compelled to spoil the simple beauty of the Ricardian economy by adding premises that could not be harmonized with it. The economic development of Mill was a struggle between a desire to be true to Ricardo and the desire to be true to the economic world about him. The latter tendency gradually gained the supremacy, and the primitive economy of Ricardo was changed into a progressive economy.

In a primitive economy the physical causes of production and distribution receive the emphasis. Wealth and progress are thought to be dependent upon and conditioned by the physical environment. In the fertility of the soil, the amount of heat, the quantity of rain, and other climatic conditions economists seek the causes of industrial prosperity. Primitive men must adjust themselves to the physical world, and gravitate towards localities where the sum of free utilities is greatest. They are mere paupers living on the bounties of nature.

In a progressive economy society becomes an organic unit with a social mechanism that breaks up the slavish dependence of man on nature. Man gradually becomes the master of nature and directs its forces. The growing mastery of man over physical forces reduces the importance of the purely objective world, and brings into the foreground the social mechanism through which natural agents are utilized and economized. The enormous waste of natural forces is diminished, and new sources of latent force are discovered in coal,

mineral oil and other products. Capital, machinery and inventions become the causes of economic activity and the means of social progress.

During this contest with nature the attention of economists is naturally directed towards the objective mechanism through which economic progress is made. Man and his wants are supposed to be fixed and undergo no change, while society, by means of an improving mechanism, can supply these wants more fully. The increase of capital, the economy of labor, the utilization of natural forces and the many improvements in production and transportation have their importance, measured by an increased cheapness of commodities that supply old wants, and not by their power to supply new wants.

It is, moreover, easy to see why Mill's attention was diverted from changes in men and in their desires. A long series of great inventions had revolutionized industrial processes and compelled society to adjust itself to new conditions. The mechanism of society was thus shown to have as direct an influence upon the social organism as has the physical environment. The laws of the mechanism of society are put on a level with those of physical environment, and these two groups of laws, in conjunction with the selfishness and passions of men, form the premises of the economy of Mill. A primitive man is put into the mechanism of modern society.

There is thus an inherent opposition between the two leading factors of this conception of society which makes the blending of them into one economy a work of the greatest difficulty. Only a master hand and a logical mind could have made the economic phenomena of our present civilization seem to harmonize with the premises of Ricardo. Even Mill would have failed had he not been aided by certain popular errors that gave vitality to old conceptions. The means which Mill uses to unite into one system the phenomena of different stages of social progress explain the obstacles which retarded the progress of the science and prevented the rise of a new economy more in harmony with the industrial conditions of the present age.

The plan of Mill's book is quite simple. In each chapter he always begins with the physical premises. He describes clearly and vividly in the first section the working of the principle in question in a simple society, where primitive men are conditioned by the direct action of a primitive world. Put the first sections of his various chapters in a body, and the economy of Ricardo is obtained. The physical character of the laws creates confidence in the reader, and the vivid picture makes a deep impression on his imagination.

In the subsequent sections Mill proceeds first by analogies, and then, by exceptions, to weave into the simple background of a primitive economy, the phenomena of modern civilization. The fundamental conceptions of the science are first stated in a form harmonizing with the conditions of primitive society, and then they are gradually enlarged to meet the needs of a progressive society. Take capital as an example. It is first looked upon as food because food is the first form of capital; next, it becomes commodities consumed in production; then it is made to include all the accumulated results of labor; and finally, it comprehends all funds used for education and in acquiring skill, intelligence, etc.

Mill thus makes use of almost all the facts that are emphasized by those who would build up a subjective economy, but he brings them in as exceptions to his general principles, and in a way that conceals the fact that the exceptions, if coördinated, would prove to be the rule. While he clearly presents the differences in the objective world, and makes them the basis of his reasoning, he never does the same for those of a subjective nature. They are scattered through his book without definite arrangement, yet if they were put by themselves they would make the greater part of it. Outside of the first sections of his chapters, most of his material is of a character well fitted for a subjective economy if arranged properly. In fact, reverse the order of the sections of many of his chapters, and the subjective nature of economic laws would become evident.

In Mill's discussions no economic theory depends upon

differences in men. Such theories begin to appear with Cairnes and Walker. Differences in men are only recognized in the descriptive parts of his book. The deductive parts have their basis in physical differences. All deductions must proceed from differences of some kind. A science cannot progress beyond the inductive stage so long as only agreements and harmonies are sought for.

I have said that Ricardo's economy was stable because the subjective and objective features were well balanced. Mill's economy, however, was very unstable because the subjective elements in it were so much more important than the objective. The old equilibrium was maintained by the advantage the objective elements obtained from being united into a body by a chain of deductive reasoning, and from the greater confidence of economists rather in objective than in subjective laws. Such an economy could retain its unity only for a short time. In the end it must fall apart merely from the growth of exceptions to its general laws. By giving up the wage-fund theory Mill himself may be said to have destroyed the equilibrium he had striven so long to maintain. So many causes were working to the same end that it will not serve our purpose to trace the decay of his system. Before turning our attention, however, to the constructive work of later economists, it will be necessary to give a history of the theory of cost of production held by the classical economists since this theory is the stronghold of their position.

## VI.

THE DEVELOPMENT OF THE CLASSICAL THEORY  
OF COST OF PRODUCTION.

The first theory of cost as the regulator of value arose among the physiocrats. They viewed the subject from a purely physical standpoint, and thought that the value of commodities could never exceed the cost of their production. They were right, of course, in this conclusion if their premises were correct. If the producing classes outside of agriculture never create a surplus, then, of course, the cost of goods must always equal their value. Under these conditions, in the goods consumed during the act of production we have a measure of the value of the goods produced.

The value of the product of the work of a horse is the quantity of food consumed during the working period. If he eats four pecks of oats a day, the value of his service can be measured by the value of the oats consumed. In the case of a man, also, if the commodities he produces do not exceed in quantity the commodities he consumes, the value of what he produces is measured by what he consumes. As a consequence of this reasoning the early economists measured the cost of labor in wheat, the staple food of the laboring class. The laborers must have enough wheat to replace the waste involved in production, and they could not get more than the amount needed to replace this waste, because of a lack of productive power, or because of rapid increase of their numbers. The value of the products of labor is thus measured by the cost of the wheat the laborers consume. The cost of the commodities is equal, therefore, to their value and seems the cause of their value.

The basis of this relation of cost to value was destroyed by Adam Smith. He showed that there was a surplus in

manufactures and commerce, as well as in agriculture. Values at least may be more than the sum of costs if there is a surplus in all kinds of production. Yet he clung tenaciously to the old doctrine and tried to make the facts fit to it. He never doubts but that cost is the cause of value. He wavers, however, between two opposing views regarding the nature of the cost which is the cause of value. In many of his chapters he uses the reasoning of his predecessors without any modification, measuring cost by the wheat or other food that producers consume. This cost may be called producer's cost, because it at least tries to measure cost by the disagreeable effort or pains of producers.

A second measure of cost Smith deduces from his theory of exchange. Both of the exchanging persons are prompted by the same motive—a desire for gain. If therefore one of them demands more for his article than it cost him in labor, the other person will not exchange his product for it but will make it himself. If one class of producers ask more than their product costs, then other producers will make this article, and through the increase of supply, the value will fall to the cost of production. If the self-interest of buyers keeps the value of articles at their cost of production, a measure of the cost of any article can be found in the amount that buyers will give for it.

Reasoning like this is used by Smith in the greater part of his discussions on value and cost. He does not measure cost directly by seeking to determine the pain or effort of producers, but indirectly through what buyers will give them for their products. Trace the distribution among a group of producers of the commodities, which are received in exchange for their products and the amount of labor of each producer can be determined. Trace the distribution of the whole product of industry among those who produced it, and the value of the goods that each producer gets, will equal their cost in labor. Why? The total value of commodities equals their total cost; and if any producer asks more for his commodity than it cost him, other producers will make it themselves, instead of getting it through

exchange. A bit of deductive reasoning is made to take the place of an investigation of facts.

Smith has thus two conceptions of cost which may be distinguished as producer's cost and consumer's cost. He regards the two as the same, and does not seem to be aware that consumers pay not only for the cost of labor, but also when there is a surplus in an industry they give a reward to labor. Producers will not leave one industry for another merely because the value of the product in the second is greater than the producer's cost. They will change to another industry only when the reward of labor—the difference between the cost and the value of the product—is greater in this industry than in the one from which they came. This difference between producer's cost and consumer's cost Adam Smith did not see clearly, and as a result there is a lack of harmony in the different parts of his system.

Ricardo took up the task of explaining the relation of cost to value at the point where Smith left it. He saw that Smith was wrong in assuming that total cost equals total value. The many reductions in the cost of production leave a large margin between the value of commodities and their cost. Competition among producers does not lead to lower general values, but only to an equalization of profits. Improvements in production tend to increase profits and not to lower prices. With these views of the effects of competition Ricardo was in a position to see that consumer's cost was not the same as producer's cost. The real cost is the producer's cost, while the cost of goods to consumers is their value. He changes, therefore, the relation of cost to value, and affirms that the value of goods is in proportion to their cost. The total value of goods may be double their total cost, but if so, the value of each article is double its cost in labor.

In treating of cost, however, Ricardo falls into the same error as did Smith, measuring cost by value. He always estimates the cost of goods by their value, and not by an independent investigation. If the value of two articles is the same he argues that the cost must be the same, because

of the truth of certain deductive premises, but he never seeks to verify his deduction by facts. It is remarkable that the adherents of the theory that cost regulates value should always use this theory inversely to show what the cost of commodities is from their value, and never to show what their values are from their cost.

The effect of cost, value, is thus used to determine the cause. In reality their theory does not measure value by cost, but cost by value. The exchangeable value of goods is easily ascertained, while the real cost of producers is out of reach. To find the cost to each producer, economists were forced to watch the distribution of the commodities obtained by producers in exchange for what they have produced. It is assumed by them that the share each producer gets is in proportion to his cost in labor. But who has shown by direct investigation that this is a fact?

Ricardo's services in developing the theory of value were not limited to his theory that values are always in proportion to labor, or, in other words, to cost. He was the first to see the influence of scarcity on value, and hence was compelled to make many exceptions to his general law. The most important of these exceptions relate to the value of agricultural products. The value of the products on the better land is not in proportion to their cost of production after poorer land has come into use. The growth of rent is the result of a relative scarcity of wheat and other food products. In his treatment of the theory of money Ricardo also shows that a seigniorage in the case of coins or the use of paper money in any form makes scarcity an element in the value of money, and reduces the proportion of its cost to its value. All kinds of international trade form a third class of exceptions. Foreign exchanges do not take place on the basis of labor for labor. The articles of one nation may represent double the quantity of labor contained in those which it receives from its neighbor. The element of scarcity comes in to influence every form of international trade, and destroys the relation that would otherwise exist between value and cost.

From the standpoint of Ricardo the use of fixed capital

creates another exception to the general law of value. Commodities made by the use of fixed capital will not exchange in proportion to their cost in labor for commodities made by labor alone. When commodities of the first class exchange for those of the second, they are the result of less labor than are the articles of the second class. They always have a scarcity value, which forms the profit of their producer.

It is necessary to call attention to this fourth exception to his general law of value, because many recent economists have read into Ricardo the doctrine that the value of freely produced articles is equal to their cost. Ricardo, however, always says values are in proportion to cost, and never that cost is equal to value. The theory that interest is a cost, and that value is the sum of the various costs, was first stated by Senior at a later period. To Ricardo the income from fixed capital created an exception to the general law of value resulting from the relative scarcity of capital. He could not admit that the sum of costs equals the value of the product without overthrowing his theory of profits. Competition, according to his doctrine, does not lower prices; it equalizes profits. The surplus created by the division of labor and machinery remains in the hands of producers until the effects of the law of diminishing returns take it away. Double the efficiency of the labor of a nation, and higher profits or higher wages result; not lower prices. Those who claim that the sum of the costs of commodities always equals their value, in some way admit the possibility of a general lowering of values, so that the total values of the products of a nation will be less than before if the efficiency of its labor is increased. If total cost is reduced by social progress, total values must also fall if they are the sum of all the costs.

It will now be apparent, I think, that Ricardo made several serious breaches in the theory of value he received from his predecessors. He cleared up the ambiguity left in the doctrine of value by Smith, and changed the statement of the doctrine so that it was logical in form and in harmony with the general economic principles which he and Smith held in common. Yet in doing this for the doctrine he

was compelled to make so many important exceptions to it, that its utility in explaining the relation of value to cost was much reduced. Under the four exceptions to which I have referred the greater part of the phenomena of value was included. In fact, when money, the products of land, of fixed capital, and of international trade are excluded from the operation of the general law of value, in a modern nation, there does not remain much of the general law to follow. Scarcity has become almost as important and universal an element in values as has the quantity of labor.

It was impossible, therefore, for the theory of value to remain long in the condition that Ricardo left it. Either some step backward must be taken by the revival of the ambiguities and errors of Smith and the physiocrats, or some new doctrine must appear which would conform more fully to the industrial facts of recent times. For the forward step the general condition of the science was not yet favorable, but backward steps are always possible.

After Ricardo's death the science was taken up by men who were less logical than he and controlled more by their feelings. All parts of the science were affected by the change, but none more than the theory of value. At this time, unfortunately, the justification of interest became an important question, diverting the attention of economists from matters of pure theory. It is to be regretted that the theory of value was not definitely settled before the significance of interest was discussed. The feeling that the latter problem excites could not but retard the solution of the theory of value, causing it to assume a form in which the taking of interest might be more easily justified by popular writers who have not yet freed themselves from the old errors of the science.

It was Senior who had the ingenuity to undo the work of Ricardo, making plausible the theory that the value of all freely produced commodities equals the cost of their production. By cost of production, however, he means the sum of labor and abstinence necessary to production. For the first time we find abstinence put with labor among the dis-

agreeable acts of production, and hence demanding a compensation. This theory forms the basis for the subsequent writers of the English school of economists, although they are not always consistent in their use of it. They usually weave into it remnants of older theories, as if half conscious that their theory of the relation of cost to value was defective.

Cairnes, however, is in some respects an exception to this statement. His analysis of the cost of production as opposed to the reward of production is admirable. He shows that cost and remuneration are the economic antitheses of each other. He thus clears the ground for a new conception of the connection between cost and value. But unfortunately the presence of side issues prevents him from seeing his way out of the old confusion of ideas. He also helped to undermine the old doctrine of value by creating another important exception to it. Previous writers considered the laborers as one class among whom there was a perfect competition. He showed the presence of non-competing groups among the laborers, the products of which did not exchange with one another according to their cost of production. In an exchange of the products of skilled labor for those of the unskilled, the first class of products will have a higher value in proportion to their cost of production than those of the second class. The presence of skilled labor affects values as does foreign trade or the use of fixed capital.

The work of Cairnes opened the way to a new class of exceptions to the law of value. While previous writers had often called attention to the differences in men and to the lack of free competition between them, he is the first to use these differences as the basis of deductive reasoning. The axioms that all men have the same natural abilities, and that differences in men are not born with them but are the result of political and social institutions, were too deeply rooted in the minds of the early English economists to allow them to emphasize the subjective differences in men. So impressed were they by the influences of physical differences, that those of a subjective nature remained in the back-

ground, or, at best, came into notice as mere empirical generalizations.

As soon, however, as Cairnes pointed out the presence of non-competing groups among the laboring classes, it became evident that there was a graded scale of intelligence from the lowest to the highest members of society. These differences in natural and acquired abilities cause each nation to be divided into many separate classes with distinct economic functions, between whom competition is imperfect. When these differences in men are recognized, it is an easy step to conclude that the normal value of a freely produced commodity does not depend on the average cost of the whole supply, but on the cost of that part of it which is produced at the greatest disadvantage. If each producer has his own cost of production, because of subjective differences which cannot be eradicated, competition cannot bring about that perfect equality in the cost of production for different producers that the early economists supposed. The law of value in all production becomes similar to the law determining the value of food products, regarding which it has long been recognized that the cost of that part produced at the greatest disadvantage fixes the price of all the supply of food.

This change in the conception of the cost of production was greatly aided by the gradual separation of the capitalists and the undertakers into distinct classes, and the increasing control that undertakers obtain in all great industrial enterprises. When each large factory has its own organization, in which the intelligence of its undertaker has a dominant place, differences in the cost of production at the various factories producing the same article are too apparent to be overlooked.

F. A. Walker was the first economist to see clearly the importance of these facts, and to recast the theory of political economy, so that it would conform to present industrial conditions. He makes four factors in production and distribution by putting the capitalists and undertakers into separate classes with distinct industrial functions. The

share in distribution secured by the capitalists is interest, and its amount depends upon the law of interest. The share of the undertakers is profit, and its amount depends upon differences in the cost of production of different producers, just as the amount of rent depends upon differences in land. There are no-profit producers who fix the price of commodities as well as no-rent lands which fix the price of food. Neither rent nor profits enter into the cost of production. The price of all articles is determined solely by the wages and interest paid by those who produce under the most disadvantageous circumstances. The effect of this law of profits is to make the value of all commodities except those produced at the greatest cost exceptions to the Ricardian law of the relation of cost to value. In fact, the law is completely broken down, since every *class* of articles is excluded from its operation.

To show this fact more clearly it may be well to restate these exceptions to the law that articles which have the same cost of production must have the same value.

- 1st. Products of foreign countries.
- 2d. Money.
- 3d. Agricultural products.
- 4th. Products made with the aid of fixed capital.
- 5th. Products having a joint cost of production. [See Mill, Book III., Chapter 16.]
- 6th. Products of skilled labor.
- 7th. Products produced on a large scale requiring a separate class of undertakers.

To see the influence of this list of exceptions upon the development of the theory of value, it is necessary to draw a sharp distinction between the theory of Ricardo and that newer theory which is best stated by Walker. They are two distinct theories, although often confused with one another, owing to the use of the same words to express different ideas. Ricardo supposes a society of laborers with the same efficiency and capitalists with the same intelligence working with the same quantities of capital under the same industrial conditions. Walker has in mind a society where

laborers differ in efficiency and the undertakers differ in intelligence, while the quantity of capital and the general conditions under which they produce also differs. He also regards abstinence as a cost, while Ricardo does not. The conclusion of Ricardo is that the value of commodities is in *proportion* to the labor expended in their production, while Walker asserts that the value of any commodity is equal to the *sum* of the efforts and abstinences needed to produce it under the least favorable conditions. Ricardo thinks the cost of production is the average cost of the whole supply; Walker makes it the cost of the most expensive part of the supply.

The difference in these theories can best be illustrated in the terminology of Mill. He divides all commodities into three classes, those absolutely limited in supply, those which may be had in unlimited quantity at a given cost of production, and those which may be had in unlimited quantities, but at an increasing cost of production. The law of the second class is that value is in proportion to the quantity of labor; the law of the third class is that value equals the cost of production under the most unfavorable circumstances. Ricardo declares the second law to be the general law of values, and makes the others special laws. Walker reduces the number of laws to two, by dropping out the second and making the third law of Mill the general law of value.

These two theories of value are based on different industrial conditions, and from them different conclusions are drawn. They cannot be reconciled, nor can any consistent thinker consciously hold both of them. The growing importance of differences in men, and in the conditions under which production is carried on, has forced economists to abandon the position of Ricardo and to accept the newer theory of value developed by Senior and Walker.

Yet this theory of value, to which the adherents of the classical school have been forced, loses sight of the central fact from which the originators of the doctrine started out. There are no means of measuring marginal costs by an independent investigation. They can be determined only by the value of the goods produced. While Walker adheres

to the theory that the cost of commodities determines their value, he has no method of measuring costs except through the value of the goods produced.

The early economists desired a definite, fixed measure of the value of commodities, and thought they had found it in their cost. So long as cost could be measured objectively by the quantity of goods consumed by producers during the act of production, the value of commodities had a definite measure. Adam Smith, however, was the last economist who sought to find in the wheat or other food consumed in production a measure of the value of goods produced. This physical conception of the relation of cost and value, however, lies at the basis of all subsequent endeavors to make cost the cause of value. The facts upon which Smith based his doctrine were soon disproved. But a clear, vivid idea, once impressed upon the mind, will not die by taking away the ground out of which it sprang. The connection between cost and value having been seen, and a theory formed, subsequent writers kept trying to prove the theory by new facts as often as the old arguments lost their validity as a result of the appearance of new economic phenomena in a more advanced industrial society. Theories have too much vitality to be stoned to death by facts, and in this case, as in many others, the rise of a new theory is the only way to displace the old.

## VII.

## THE DYNAMIC ECONOMY.

The several economies which have been described are but phases of one economy. They all presuppose the same characteristics of man and nature, and emphasize the dependence of the former on the latter. The ideas upon which they are based are not inductions from the particular environment of each economist, but are the inherited ideas of the race. The primitive conditions under which men lived have made so deep an impression on their minds that the old ideas cannot be eradicated, except by a process of evolution. Particular writers rejected this or that primitive idea and put in its place one founded on modern experience; yet the method of thinking in which they were reared was so strong, that they soon gave up the struggle, and made their discoveries mere exceptions to the accepted system of thought.

The economy of the physiocrats is not that of the French people in their time, nor is the economy of Adam Smith and Ricardo that of the English people. They are both primarily economies of the ancient world. At the time of these writers modern history can scarcely be said to exist, and had little influence. Every one read ancient histories, and the industrial condition of the ancient world was better understood than those of the modern. The economists, therefore, are not to be blamed for taking the current ideas and building their systems upon them.

That nature is the source of the surplus of society is no discovery of the physiocrats, nor did Adam Smith originate the doctrine that labor is the cause of value. So also the doctrines that men are born equal, that poverty is the result of governmental oppression, and that population increases more rapidly than subsistence are as old as society.

They simply reflect the reasoning of primitive men, dominated by nature, and robbed by their rulers. The law of diminishing returns is but a particular form of the inherited concept of the niggardliness of nature. Ricardo did not try to prove it. He found it already accepted by the public; just as he found his iron law of wages, or as Smith found the doctrine that all men have inherited the same mental faculties. Mill was the first to try to prove the law of diminishing returns, and then only in consequence of the attack of Carey.

The general features of this economy are static. The environment has so strong an influence over men that their subjective qualities can be neglected. Nature is so niggard and its surplus so small that no radical change in social relations is possible. I do not need to expand the system of thought resulting from this objective basis, as it has already been done in its proper place. It is, however, but just to state that no economist was an advocate of static conditions. In some particular, he breaks away from inherited ideas, and thus creates an exception upon which he bases his hope of progress. A purely static economy is only an ideal, but one of great use when different economies must be contrasted.

When a reaction set in against the ideas of the school of Adam Smith, a new standpoint from which to view social affairs was introduced by the German economists. They saw that society, and not the individual, was the center of economic activity; and that productive power depends more largely upon the organization of society than upon the material environment. They begin with an investigation of man and society, and not with nature. The primary premises of the science thus became subjective since the industrial activities and the consumption of men are directed by their wants, and not by the obstacles that nature interposes between each want and its gratification.

Out of these subjective premises mainly through the efforts of the Austrian economists a deductive economy has been formed. These economists have shown the importance of the theory of marginal utility and created a theory of

value based upon it. Yet a mere subjective economy cannot displace the static economy of the classical writers because many of its premises are objective and relate to the environment. The theory of cost must be put on a modern basis as well as the theory of value.

Nature will always seem niggard until it is shown that the economic environment changes with the changes in men. Each new class of men looks upon the world in a different way, and the environment they find depends upon their mental characteristics. The objective laws of a given society are not simply the laws of nature; they are laws derived from the particular combination of natural forces of which the society makes use.

Each modification of the environment, moreover, reacts upon men through their consumption. Every reduction of cost creates another order in which men consume commodities.\* A new standard of life is formed through which the feelings and mental characteristics of men are changed.

In this way a complement of forces is brought into activity through which social progress becomes continuous. Changes in the race psychology—for there is no better term for subjective qualities, desires and feelings created in men by society—give to men a new economic environment. This new environment modifies the standard of life through changes in consumption, and then the new standard acts upon the race psychology and creates new motives in production. This complete economy I would call a dynamic economy, because it keeps up a series of progressive movements in society through the reactions between the subjective and objective worlds. Progress ceases to be a series of waves that spend their force in vain upon the unyielding barriers of nature, and becomes a steady, onward movement that cannot find an equilibrium.

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\* See *Consumption of Wealth*, Sec. 2.

## VIII.

THE INFLUENCE OF THE CONSUMPTION OF  
WEALTH ON THE VALUE OF COMMODITIES.

Mill has claimed that the laws of consumption are not a part of political economy because they are simply the laws of human enjoyment. Jevons, in reply, says that it is obvious that the science of economics rests upon the laws of human enjoyment, and hence, if no other science has developed these laws, they must be investigated by economists. Both assume that the laws of consumption depend upon purely subjective facts, and can be determined by introspection or by some simple induction from general experience. With such views it is not remarkable that Mill excluded consumption from economic discussion, or that Jevons based his theory of economics on a very crude theory of consumption.

As the Austrian economists have so clearly shown, the laws of value rest on purely subjective facts, while the laws of consumption have their basis partly in subjective facts and partly in objective relations. In investigating the theory of value, the utilities of the various commodities are accepted as fixed quantities; but a study of the laws of consumption is an investigation of the causes of the utilities of these commodities, and the conditions under which they change. In a society at a given time assume that the commodities A, B, C, D, E are valued in the order they stand, the theory of consumption must explain why they stand, at another time, in the order B, A, E, C, D. Or, if the commodity A was valued at 10 units at one period, why is it now valued at 7 units?

If these are the problems for a theory of consumption to solve it is plain that simple inductions and popular ideas are

deceptive. The commonly accepted theory assumes that there are a few necessities—food, clothing and shelter, which have a high utility, that the comforts of life have a lower utility, and that luxuries have a still less utility. This doctrine leads those who accept it into error, because of two meanings of the word “utility.” Absolute utility is the satisfaction of mere living. Positive utilities refer not to life but to the content of life; they are the sum of satisfaction that can be added to bare living. Negative utilities are the pains that detract from the pleasure of living. A man may have the absolute utility of life, yet he may suffer all kinds of pain and be on the point of suicide. Every life contains the absolute utility of living plus certain positive utilities or pleasures minus certain negative utilities or pains.

The theory of consumption is not concerned with absolute utilities. They cannot be increased, diminished or compared. Air has an absolute utility, yet it gives little or no positive utility. Food has an absolute utility, and usually a positive utility as well. While food adds to the pleasure of living, air merely sustains life. Every group of goods from which choice can be made must contain all the necessities of life. We compare groups of this character, choosing that group from which we can get the greatest sum of pleasure.

It is not true, therefore, that the groups containing the absolute utilities or necessities of life are those that give the largest sum of pleasure. They may be composed of articles which give little pleasure, yet they must be chosen to preserve life. A commodity necessary to life is an absolute utility so long as there is no substitute for it. But when the increase of productive power allows a choice between it and some other commodity supplying the same want, both have their utility measured by the pleasure they afford. Their values then sink to the positive utility of their final increments. When used without a qualifying word, I shall use the word “utility” in the sense of positive utility.

From this general description of the scope and content of the theory of consumption, it is evident that the task before

us is difficult and intricate. It is, moreover, highly deductive from the start, and requires a careful analysis of the causes which influence our subjective feelings and the objective environment. In this connection I shall not try to develop a complete theory, but shall content myself with giving in outline, several of the prominent laws of that theory.

First. *The Law of Necessity.* To the content of this law I have already referred. Life is precious, and we are willing to sacrifice other ends to preserve it. Every group of goods forming what is consumed of a person must contain all the elements needed to sustain life and to secure present bodily necessities. There must be enough food to satisfy hunger with enough clothing and shelter to afford protection from the variations of climate. No matter how great a sum of satisfaction is sacrificed, these absolute utilities must be secured. The misery and poverty which that most persons endure in primitive societies is the result of this law of necessity, since it compels them to make up their consumption from a group of articles from which they get little satisfaction.

Second. *The Law of Variety.* As soon as the necessities of life are secure, a new law of consumption asserts itself. An increasing consumption of any one commodity reduces the utility of each increment until a point of satiety is reached. To avoid the reduction of the marginal utility of a commodity, other commodities satisfying the same want are substituted in its place. The change from one commodity to another also revives and increases the satisfaction of consumption, and in this way an increase in the number of commodities consumed is accompanied with an increase in the marginal utility of each commodity.

Third. *The Law of Harmony.* The utility of a commodity depends on the group of commodities with which it is consumed. The consumption of some articles is harmonious, and hence the sum of their utilities when they are consumed together is greater than the sum would be if they were consumed apart. The utility of butter and bread is much greater than the sum of the utilities which would result

from their separate use. Salt, by itself, is disagreeable; yet, as an ingredient with many kinds of food, it adds greatly to their enjoyment. On the other hand, many commodities are unharmonious. They cannot be consumed together without losing a part, at least, of the sum of utilities which their separate consumption would give. In this way commodities are joined together in natural groups, and each person tries to get a harmonious combination, eliminating from his consumption as many of the discordant elements as possible. From this law it follows that the total utility of a group of commodities will be greater than the sum of the separate utilities, if the combination is harmonious, and less, if it is discordant.

Fourth. *The Law of Cost.* If men lived in a world where they could supply their wants without work, the order of their consumption would be vastly different from the present order. All articles whose cost exceeds their utility, are now cut out of the consumption of each individual. Because of their cost a large part of the commodities produced never, or at least, but rarely comes into the consumption of the average man. Articles that are consumed are not estimated according to their total utility, but only by the surplus of utility above cost.

Fifth. *The Law of Grouping.* Under the conditions in which primitive races live, but few articles give intense pleasure in consumption. The consumer strives, therefore, to get into his diet as much as possible of these pleasure-giving commodities. He will limit his use of other articles to the amount needed to supply the absolute utilities not secured by the first class of commodities. Suppose wheat to be the pleasure-giving article, and the other articles to be cabbage, turnips and beets, articles that support life, but give little or no pleasure; he will eat as much bread as he can get, and then satiate himself with cabbage and other vegetables. To our early ancestors, liquor was of immense importance, because it was the pleasure-giving part of the food, and the other articles of the diet were selected because they harmonized with it. Tobacco also has a like influence

on its devotees. They modify their diet so as to make it harmonize with the pleasures derived from tobacco. As these leading pleasures are usually discordant, each person must select a few of them which harmonize in the main, grouping about them other articles with much absolute, but with little positive utility.

Sixth. *The Law of Negative Utility.* Certain absolute utilities are at the same time negative utilities. The medicine we take is usually unpleasant. It is an absolute utility, and at the same time it is a negative utility because it reduces the sum of positive happiness. Many articles which give pleasure for the moment, or at least no pain, later are the source of suffering. A man eats pie and suffers from indigestion; he dances and takes cold; he smokes and becomes sleepless. Negative utilities are thus the painful results which follow from careless actions or from actions prompted by present necessities. Usually these negative utilities are the effects of past acts, but their presence causes the consumer to deviate widely from his natural choice in consumption. The bad effect of some past consumption causes him to choose first some article which will soothe present suffering. If the diet of a person is of such a nature that depressed feeling or pain follows eating, he craves for liquor, tobacco or other stimulants. They give a present relief from suffering only to become in turn the cause of future pain. Negative utilities thus disarrange the consumption of most persons, greatly reducing the sum of positive utilities.

The combined influence of these laws of consumption causes the line of progress along which a society moves away from primitive conditions, to be different from what it would be under more natural conditions, where articles can be chosen according to the pleasure they afford. It is usually assumed that the primitive man is the natural man, yet if we view his environment more closely, it will be seen that his actions are most unnatural. He cannot gratify the intense pleasures of his economic environment, because the production of absolute utilities demands his attention. The great

cost of many articles reduces the variety of his consumption and compels him to insert articles with a negative utility. The few articles which he must consume do not harmonize with one another, and thus the sum of happiness derived from them is greatly reduced.

A primitive society is thus organized under conditions where the sum of positive utilities is little in excess of zero. Its progress is, therefore, not from intense to less intense pleasures, but in the opposite direction. Every increase of productive power is used to increase not the quantity of the articles already consumed, but their variety. Articles which have a negative utility are omitted, and those that are not in harmony with the consumption as a whole are ejected and in their place other articles are put, which add to, instead of detracting from, the sum of happiness. The progress of society consists, not in increasing the consumption of the articles in use, but in substituting new articles with a large sum of pleasure for articles out of harmony with the remaining commodities consumed. The progress is dynamic, and not static, because the articles consumed change in character and quality, instead of merely increasing in quantity. The primary law of social progress therefore is that *society progresses from a simple, costly\* and inharmonious consumption to a varied, cheap and harmonious consumption.*

Many deductions can be made from these premises, but those relating to the theory of value at present must occupy our attention. The theory that value depends upon marginal utility has been based upon two assumptions: that we satisfy our most intense desires first, and that additional increments of any commodity give the consumer less pleasure than the first increments. These premises, however, are strictly true only when consumption is static. Change the environment of a society, or increase the productive power of its members, and it may be possible for them to bring into their consumption articles which will satisfy desires more intense than those that were satisfied in the first social state.

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\*In the quantities of labor required to produce them.

It has been assumed too often that we always gratify our **m**ost intense desires first, and that the increase of productive **p**ower gives us more commodities of like kind and character or other commodities which give less pleasure in consumption. From these premises it would follow that additional quantities of articles for consumption are sources of less pleasure than the first increments, and hence that the final degree of utility of each commodity is gradually reduced with every increase of the quantity of goods due to the increase of productive power. This conclusion is rendered invalid by a confusion of absolute with positive utilities. If a choice must be made between absolute and positive utilities, the former will be chosen; and individuals, when isolated from society, must often make such a choice. But it is a mistake to take the actions of isolated persons as a standard by which to judge the actions of individuals under normal social conditions.

In primitive societies, from a lack of productive power, men are compelled to choose absolute utilities, the greater part of which give but little pleasure. And of the few articles which do give pleasure, so many increments are already consumed that little or no additional pleasure can be derived from an increase in their quantity. The result is that in primitive societies the positive utility of the marginal increments of the commodities consumed is low—almost zero. In saying this I refer to normal conditions. A society, because of famine, war or other disasters, may be temporarily placed under conditions which raise the marginal values of commodities; but the return of peace and plenty will cause a return to the former low level.

Every increase in the variety of consumption due to social progress causes society to transfer its labor from absolute utilities, which give little pleasure, to new utilities which will sustain life and give more pleasure in consumption. At the same time articles not in harmony with the consumption as a whole, are ejected and negative utilities are displaced by those whose pleasures are positive. The increase of productive power due to a better utilization and economy

of natural forces acts in harmony with these changes in consumption. Productive powers are directed by the motives which control consumption and the spare time arising from each increase of productive power is used to produce new articles with a higher marginal utility, instead of additional quantities of articles now in use, the marginal utility of which is not much above zero.

It often happens that these new articles are in name the same as the articles already in use, but if they satisfy new wants in addition to those which the former articles satisfied, the marginal utility may rise. A pair of coarse shoes keeps from their possessor the pain of going barefooted. A pair of well-fitting, fine shoes prevents these pains, and at the same time is a source of positive pleasure. A second coat may have a higher marginal utility than the first if the first is a mere absolute utility which, while protecting the body, is often a source of irritation because of its cut and color. A working and a dress suit both protect their owner, but the latter often possesses the greater positive utility, hence the marginal utility of clothing may be higher to a man possessing two suits than to him who has but one suit.

The lack of time forces the members of a progressive society to leave their least intense wants unsatisfied; and any increase in the variety of their wants will cause wants of greater intensity to remain unsatisfied. Each individual in a society has a marginal increment of consumption, that is, an increment from which, under normal conditions, he gets the least surplus of pleasure. If the marginal increment of any commodity sinks below the marginal increment of consumption, less labor will be employed in its production and more in that of other commodities. An equilibrium will thus be restored, the marginal increments of all commodities having the same utility as the marginal increment of consumption. When the marginal increment of consumption equals two units, the marginal utility of each commodity will tend to be two units. The normal effect of an increase in the variety of consumption will be to transfer the marginal laborers in the old occupations to new occupations sup-

plying more intense wants, and with every change of this character, the marginal increment of consumption will have a greater utility than before.

There is a margin of consumption as well as of production. The least intense wants remain unsatisfied just as the least productive lands remain unused. The margin of consumption is high if the marginal increment of consumption satisfies an intense want. Whatever increases the variety of consumption raises the margin of consumption, while whatever increases the quantity of goods without increasing their variety lowers this margin.

To illustrate the effect which changes in the margin of consumption have on subjective values, I will trace these changes in an isolated society through several stages of its development. We will suppose that in the first stage, besides certain absolute utilities, potatoes form the food and wool the clothing of the people. In the second stage, wheat is added to the food supply; in the third, meat comes into use; and in the fourth, cotton supplements wool for clothing.

I will use the following table to illustrate the change in subjective values which would result from the successive introduction of these articles into the consumption of the average man in this society. The Roman figures refer to the stages of social progress, the letters to the different articles of consumption, while the Arabic figures indicate the intensity of the pleasure derived from each increment of consumption, the first increment being represented by the highest figure.

<i>A—Potatoes.</i>			<i>D—Meat.</i>			<i>E—Cotton.</i>		
<i>B—Woolens.</i>			<i>C—Wheat.</i>					
I.			II.			III.		
A	B	A	B	C	A	B	C	D
6	6							8
5	5	6	6					7
4	4	5	5	5	6	6		6
3	3	4	4	4	5	5	5	5
2	2	3	3	3	4	4	4	4
1	1	2	2	2	3	3	3	3
Total number of Increments. . . .			12	14		17		19
Total number of units of pleasure.			42	54		81		104
Total value. . . . .			12	28		51		76

In the first stage let us assume that 6 increments, each of potatoes and wool, give a surplus of pleasure, each increment being the result of a half hour's work. Then the man would cease working at the end of 6 hours, and have, as a result of his day's work, 42 units of pleasure. In the second stage, where wheat becomes a food, he will work longer, say 7 hours, because of the additional pleasure obtained from the wheat. To make the marginal increments of potatoes and wool have the same value as the marginal increments of wheat, he will cease to produce the last increments of potatoes and wool, and produce 4 increments of wheat. In this way the margin of consumption will be raised, while the marginal increment of consumption will be two units instead of one. In the third stage, where meat is a food, the man will work still longer, say  $8\frac{1}{2}$  hours, and the marginal increment of consumption will be valued at 3 units. In the fourth stage, cotton is used, and we will further assume that the utility of wheat is increased two units by the use of yeast in raising bread. The length of

the day's work will be increased to say  $9\frac{1}{2}$  hours, and the margin of consumption will be raised from 3 to 4 units.

It will be noticed that each new want is partly supplied by additional labor, and partly by a transfer of labor from the marginal increments of the articles previously consumed to the new article. Notice further the changes in total utility and total value. In the first stage, the total utility equals 42 units, while the 12 increments of consumption, having a marginal utility of one unit, are valued at 12 units. In the second stage, the 14 increments have a total utility of 54 units, a marginal utility of two units, and a total value of 28 units. The 17 increments of the third stage have a total utility of 81 units, a marginal utility of three units, and a total value of 51 units. In the fourth stage, total utility rises to 104 units, the marginal utility to four units, while the total value is increased to 76 units.

The total utility and total value both increase with the growth in the variety of consumption, but the latter increases more rapidly than the former, because of the rise in the margin of consumption. These facts enable us to formulate the general law of subjective values in so far as it depends upon the consumption of wealth. In a dynamic society, subjective values tend to rise because of the rise in value of the marginal increment of consumption. Each successive stage in the development of a society causes the total value of commodities to approach more nearly to their total utility. Fully to appreciate the meaning of this law, it should be kept in mind that the standpoint is that of the consumer. Consumers' values relate to houses, clothing, dinners and other finished products. They are the values of the units of consumption—the groups of complementary goods from which consumers get their pleasure. Believing that cost determines value, the classical economists naturally began their investigations of value with producers. Those, however, who make value depend on the subjective conditions in consumers to be consistent, must begin with the latter.

## IX.

## THE LAW OF COST.

To an isolated man cost is what is given up to get a return from nature, and individuals have not yet out-grown this concept of production acquired when they lived in isolation. The share in distribution which they receive is justified by reference to the conditions of a primitive society, where subjective values are no greater than costs. The landlord calls attention to the difficulties of bringing land into cultivation; the capitalists refer to those of primitive men in acquiring capital and in abstaining from its consumption; the employing classes, who enjoy profits, lay stress upon the sacrifices needed to acquire intelligence and skill, while the laborers emphasize those primitive means of production involving great muscular exertion and fatigue. Each class has its own way of showing that its costs equal the values of the goods it produces, and if the evidence of all is to be taken, the labor theory of production is valid.

With the progress of society this measure of cost becomes defective. The land has been brought into cultivation, habits of saving have been formed and capital accumulated, intelligence is for the most part inherited and not acquired, while labor becomes so mechanical that its cost is greatly reduced. We now form a social concept of production, conceiving of a united society bartering with nature to get the largest sum of utilities for a given expenditure of effort. If we estimate the cost to society subjectively, it is the sum of pains which producers must endure while engaged in production. If estimated objectively, it is the quantity of goods which must be given to these producers to restore them to the condition they were in when production began. The cost of wheat is increased when more laborers must be employed in its production, or when the labor of producing wheat

becomes more irksome. To society it is a matter of indifference whether one of two laborers, because of better land, produces 200 bushels while the second produces 100 bushels, or if each of them produces 150 bushels. There are a certain number of workmen, and they are distributed among the various industries in a way which will cause the keenest wants of society to be gratified. The cost of wheat, of iron or of any other commodity useful to society, is determined by the number of men engaged in its production. The cost of capital, of skill, of education, and of other necessary aids to production must be estimated in the same way. A given proportion of the labor of society must be directed into these channels, and the cost to society is the sum of the efforts of those engaged in these occupations.

The gross return which a society has to enjoy is not wholly the result of the labor of its members. The natural powers of land, water, wind and similar forces assist men in production reducing the cost. Besides these natural forces, the members of a society at a given time are aided by the results of past civilization. The labor of the past has added much to the original qualities of the land which society occupies, and each generation finds it in a better condition than did its predecessor. Great additions have been made to the productive qualities of the laborers themselves, and there is also an increasing stock of knowledge which descends from one age to another. With but little cost we can acquire the skill and knowledge of our fathers and make use of the forces they set in motion.

But these inherited qualities increasing the productive capacity of man is not the only way in which man is aided by past civilization. As a consumer also, he has become better adjusted to his environment. The wants of the primitive man were few and simple, and all his pleasures being physical and exclusive, there was a demand for consumption only those articles of which the soil could produce but small quantities. When the results of civilization have modified the original appetites and passions, wants become more varied and less exclusive. Man gradually conforms to the external con

ditions about him, and obtains from nature more liberal rewards for his efforts. The cost of commodities become less as men adjust themselves more fully to nature.

Aside from labor, there are then three elements which enter in to determine the gross produce of society—natural forces, inherited industrial qualities, and consumption with its habits, customs, and feelings. From the social point of view, these three aids to production are never elements of cost. Nature always works gratuitously for society; and although industrial qualities have been acquired by our ancestors at a large cost, we receive them as a free inheritance. Our pleasures and habits have also become modified to such an extent that we naturally choose new forms of consumption which harmonize more fully with our present environment.

It is a mistake, therefore, to assume that the whole produce of industry is due to the efforts of individuals, and that society, after replacing its producers in the position they were before production began, has little or no surplus of which to dispose. In this assumption the fact is overlooked that society gives to its members all the produce of industry, though the goods which are the equivalents of the real costs may be but a small part of what is received.

Before the formation of society isolated individuals adjust themselves to their immediate environment and get what surplus they can by a direct utilization of natural forces. The growth of social forces and ideas converts these isolated producers into an organized society. Individuals no longer adjust themselves to nature but to the society of which they are a part. Instead of supplying their own wants the individuals work for society, receiving from society the goods they consume. To utilize the improvements in production in the progress of society new combinations of laborers are created; the instruments of production are changed from one form to another, while land is devoted to new uses, bringing about greater returns to labor. While these changes reduce the cost of production to society, the surplus which is created must be largely given to the men whose occupations are changed, or to the owners of land or other productive in-

struments for which society has found new uses. Society cannot get men to work for it unless it gives them a greater surplus than they could obtain working by themselves, or by working in some other combination than the one in which society wishes them to work.

The surplus of industry is divided among the members of society according to the needs of society for their land, capital, intelligence or labor. Whoever has the greatest variety of opportunities to use his instruments or services gets the largest share of the surplus. Every producer in an advanced society has his costs repaid to him and gets a share in the surplus. Therefore, we cannot estimate the costs by what he receives in exchange for his products, since what the individual receives comes partly from the fund set aside by society to repay costs and partly from the surplus due to the aid of nature or of social progress.

These illustrations are sufficient to show the difference between the standpoint of the individual and that of society in measuring cost, and the need of a full investigation of the causes which allow individuals to convert the surplus of industry into cost for other members.

There is no need now for an examination of the source of rent and profits. The labors of Ricardo and Walker have made it clear that they are not parts of the cost of production, but are drawn directly from the surplus of production. Interest, however, is a subject of controversy, and to it our attention must first be directed.

It is claimed by Senior, as well as by many other economists, that interest is one of the costs of production, and that the sacrifice of the capitalist is of the same nature as the sacrifice of the laborer. The one endures the pains of working while the other endures the pains of abstinence. This doctrine, however, does not state fairly the psychology of exchange and production. It is, of course, painful to abstain from the consumption of food or of other pleasure-giving commodities. To go without bread when hungry, or without clothing when cold; are acts of the same disagreeable nature as those needed to produce food or clothing, and when such

acts are necessary for the accumulation of capital they must be classed among the costs of production.

But the ordinary forms of abstinence in a civilized society are not of this character. They are merely abstinence from one form of wealth to get another which the possessor regards as more valuable. While it is painful to abstain from eating bread and remain hungry, it may be a pleasurable act to go without bread to get meat. To lose a horse without any compensation is painful, but to part with him to get a house would not cause any regrets. Would the owner of the horse reason correctly if he were to claim that his horse cost him 80 units of pain, and that the pain of losing the horse by death would be 90 units, therefore, the cost of the house he receives in exchange for the horse is 170 units of pain? Certainly not. We do not feel any pain in parting with an article if we get in exchange for it another article which we value more highly. The sum of our satisfactions is increased without any addition to the sum of our pains.

If we look at the act of saving from a social instead of an individual standpoint, it is easy to see that saving decreases the sum of pain and increases the sum of pleasure. The society that accumulates large quantities of capital has more commodities to enjoy than has a society with less capital. And if other conditions are the same, the first society has less pain to suffer in producing a given quantity of goods: the members need not work as long nor as hard as those who live in the second society.

Again take a number of isolated producers, each of whom supplies his own wants. Each devotes ten months of the year to procure his present goods—food, clothing, shelter and the like, and two months to make his tools and other future goods. Suppose these isolated producers join together in one society. They will not now work ten months of the year producing present goods, and but two months producing future goods. The advantage of co-operation will enable them to supply their present wants in eight months much better than they formerly could in ten months. A larger proportion of all the laborers will now be engaged in

making future goods, and the cost of producing them will be reduced.

The members of this society have not abstained from consuming any of the present goods. On the contrary, they have more present goods than ever before, and also a larger quantity of future goods. In each item the cost of production has been reduced. There is, therefore, no extra cost for any one to bear. Yet in this society where there has been no increase of cost there will be an increase of interest. There are more future goods, and these future goods are not to be valued as highly, unit for unit, as are present goods.\* Ten days' work in a plow will not exchange for ten days' work in bread, and the difference in their values will be interest. It is a part of the extra gain coming from a more complete conformity to conditions of production, and not a compensation for an increase of pain due to a delay in consumption.

If interest is a cost and not a surplus above cost, then rent is also a cost and not a surplus. Suppose a man owns a farm and a house each worth \$5,000, the income from each amounting to \$300. If it is said that this man endures a sacrifice equal to \$300 because he does not consume the capital in the house, he then endures a like sacrifice because he does not consume the capital he invested in the farm. Neither the farm nor the house are consumable goods, but they can easily be changed into other forms of capital which satisfy present desires. The temptation to indulge in costly luxuries is equally great to the landlord and to the capitalist; and if the latter has on this account a cost equal to his income, the former is in no better condition.

The fact is that while each may desire to spend more than his income, neither obtains any additional return because of his temptation. The landlord secures his income because of a difference in the fertility of soils, and the capitalist because of a difference in the value of present and future goods of like quality and character. No matter how

\*See Böhm-Bawerk, *Positive Theory of Capital*, and the writer's *Fundamental Idea of Capital*, *Quarterly Journal of Economics*, Jan., 1891.

strong the desire for present pleasures may be, if the desire for future pleasures is nearly as great, these men will accumulate capital and derive an income from interest.

A vivid mental picture of future wants creates a present pleasure in having these wants provided for. Whenever this pleasure is greater than the disagreeable results of delaying consumption, capital may be accumulated. Whether it will be accumulated depends upon the difference to the individual in the value of present and future pleasures. It is an estimation of a present surplus against a future surplus. To ask a man to go without interest is like asking him to take a dinner of bread and potatoes when he prefers meat. Neither act causes any pain, but both involve a loss of present pleasure. Cost is the opposite of pleasure and not the delay of pleasure. Interest, to the buyer of commodities made with the aid of capital, is a cost, but it is not a cost to society. To the latter it is a surplus—one of the elements which make up the difference between the total value of all commodities and their total cost.

To bring out clearly the law of cost and the relation of total cost to total utility, the principles I have been using must be applied to the measurement of the sacrifices of the laboring classes. Are the wages of workmen at the margin of production no more than are needed to replace the goods consumed in production, or have they also a share of the surplus?

The reasoning of those economists is deductive who believe that the return of the laborers at the margin of production just equals this cost in labor. The major premise is that men will continue working as long as they get a surplus of pleasure. With this premise it is easy to show that the last effort of production is the effort with the least possible surplus of pleasure, because, if additional efforts would yield a surplus of pleasure, production would have continued.

The argument for the doctrine in question is apparently sound; yet I doubt if its advocates have been conscious of the important limitations to which their major premise must be subjected. The premise in the first place assumes that the

**P**hysical environment of the society in question does not afford its members unlimited opportunities to work with a large surplus. The last portion of each commodity produced is usually represented to be the result of the efforts of some individual working at the margin of employment, where the return which nature gives to labor is so small that there can be no surplus in production.

The presence of better opportunities for labor does not prove that the pain of the marginal production is less than the pleasure derived from it. These better opportunities, however, are the condition to a possible surplus in the final act of production. A man on a fertile farm, paying no rent, may work so long that the pain of working is increased enough to equal the return obtained from the marginal produce; yet whether he will work so long depends upon his social environment rather than on himself. If he enjoys any pleasure not the result of his economic efforts, he will cease working while his labor gives him a surplus of pleasure. A man will leave a fertile field before the labor is wearisome, if he enjoys hunting, fishing, riding, or even if he loves to gossip in the village grocery.

It is wrong to say that a man will work as long as the pleasure derived from it exceeds the pain connected with it. He works not merely for a surplus, but for the greatest surplus of pleasure. He will deviate from one course of action to another only when the second offers a greater surplus than the first was able to give. All kinds of non-economic pleasures, from religious duties to athletic sports, cut down the hours of labor and allow the worker to get a considerable surplus from this last act of production.

In primitive societies, the surplus at a margin of production is largely the result of non-economic causes; but in the more advanced societies, where the production is efficient and consumption is varied, economic causes give a surplus to the last increment of production. Every increase of productive power lengthens the time during which a man can work and have a surplus; but with every increase in the quantity produced, more time is needed to consume it. The

time needed to consume goods cuts in on the time which might be used to produce them, preventing the day's work from being prolonged until the effort of production equals the pleasure of consumption.

Let us assume that a man occupies eight hours in sleep. Sixteen hours are thus left for work and leisure, or for production and consumption. If the man works after supplying the necessities of life the return must be high enough to pay for the pain of production and the pleasure in consumption which he loses by spending his time in work. How much pleasure he loses will depend upon the number of opportunities he has for work and upon the surplus he can get from them. If he can get a surplus from twenty articles, each of which requires an hour's time to produce, at least four of them could not be produced for lack of time. Suppose it took four hours to consume the produce of the first twelve hours' work, then but twelve of these articles could be produced, the twelfth article being at the margin of production. The value of this twelfth article cannot be less than the effort of the twelfth hour's work plus the surplus he would have derived from the thirteenth article. If the twelfth article is cutlery and the thirteenth is glass-ware, the value of the cutlery must be equal to the pain of making the cutlery plus the surplus that could be obtained by making glass-ware. If the value of the cutlery equaled only the pain of making it, the man would make the glass-ware, from which he could get a surplus.

The principle that I desire to illustrate is now accepted in discussions relating to rent. If the marginal land used for gardening will yield a rent for wheat, the value of the marginal produce of garden products must equal the cost of the labor employed plus the rent of the land when used for wheat. And if this land is afterwards used for building purposes, the rent which gardeners would pay for the land must be added to the other expenses which the occupiers of these houses must pay.

The marginal laborer in any society must be given a "rent" above his cost in labor as soon as all the wants of

the society cannot be supplied in the time given to production. The least intense wants must remain unsatisfied and the marginal laborers will be transferred to new occupations supplying more intense wants. This transfer cannot be made unless a greater surplus is given to them than they procured from the same work in their old occupations.

The value of the marginal product equals not the cost of this product, but the utility of the most intense want remaining unsatisfied when the day's work is done. Or, what is the same, its value is equal to its cost of production *plus* the surplus that could be obtained from the same labor used in satisfying the most intense want which remains unsatisfied. The marginal value of each commodity consumed by a person tends to be the same as the value of the marginal increment of consumption. When this marginal increment gives a surplus of two units, the marginal value of each commodity will tend to be two units greater than its cost of production.

The principle becomes clear by bringing this reasoning to bear upon what has been said about interest. Each person values present higher than future pleasures, and hence the marginal increment of consumption for future goods will be higher than for present goods. Suppose a man values an increment of a commodity four units higher for present than for future consumption. Then if the marginal increment of present consumption has a surplus of two units, the same increment of future consumption will have a surplus of six units. Under these conditions he will supply all his present wants which give a surplus of two units, and all his future wants giving a surplus of six units. His interest consists in the gain he makes in supplying future wants which give a surplus of six units instead of supplying present wants which give a surplus of one unit. If he did not supply these future wants, his spare time, applied to satisfying present wants, would give him a surplus of but one unit, since all his present wants with two units of surplus are already supplied.

Suppose through some great reduction in the cost of production of future goods the surplus above cost for these goods

formerly produced is increased to eight units. The laborer will now cease to produce those increments of each commodity which gave a surplus of but two units in present goods, and will devote his spare time to the production of future goods. The surplus in the production of present goods will rise, and that of future goods fall, until the marginal increments of present and future consumption differ by four units. The marginal increment of present consumption will yield perhaps three units of surplus, while that of future consumption will yield seven.

The sacrifice of the capitalist therefore is of the same nature as the sacrifice of a laborer, when the latter gets a surplus above the cost of his labor. The laborer gets this surplus because he abstained from some other action which would have given him the same surplus. Like the capitalist, he is paid in this case for a negative act and not for a positive cost. Viewed from the position of society, neither of these acts has a cost, as they do not increase the positive pain which the members of society must undergo. Viewed from the position of the buyer of goods, both are cost because he must give a larger quantity of goods to get the articles they produce. Abstinence of either kind is a negative cost which affects the value of goods in distribution, but neither is a positive cost increasing the pains of production. To delay a pleasure or to change from one occupation to another is not the same thing as to undergo a pain, though they have the same effect on the value of goods to consumers. Aggregate costs, therefore, are composed of two elements—the positive cost of production and the negative cost of abstaining from the surplus which might be obtained by actions in less complete conformity to the interests of society. When it is said that marginal values equal the cost of production, a surplus in the form of interest and wages is added to the real cost.

The prevailing opinion concerning the relation of value to cost comes from viewing industrial processes from the standpoint of distribution. While in production the producers stand united to barter with nature on the best terms, in distribution they stand opposed to one another. The question

now is: How shall the return obtained from nature be divided among the various members of society? To answer this question we must know what forces enable persons to increase their share in distribution. Ricardo points out two forces controlling the distribution of utilities—the possession of scarce articles and the pains of production. A better classification would make four forces, adding to those already mentioned the ability to perform rare services and the sacrifice of one pleasure for another. Ricardo overlooked the third force, because he accepted the axiom that all men are born equal. Senior discovered the fourth, but he made the mistake of assuming that the sacrifice of pleasure is a cost like the pains of production. It is not a cost of production, but it has the same effect in the distribution of products. It is of no consequence to the buyer whether the producer sacrifices other pleasures to produce a given article or undergoes positive suffering, but the difference between the two is of the greatest importance to the producer of the article. In the one case he has a great surplus after replacing the loss of vitality due to the act of production while in the other he has none.

So long, therefore, as we view values from the side of distribution, and only ask what will enable individuals to get a greater share of what is produced, there seems to be a multiplicity of causes of value. Values seem to be the result of the forces which act in distribution, and their sum equal to the sum of these forces. But these forces do not cause values; they merely distribute values already created. The real cause of value is the force which sets production in motion, and not the forces controlling the possession of its products.

## X.

DOCTRINES WHICH OBSCURE THE RELATION OF  
COST TO VALUE.

It is impossible to get at the relation of cost to value except by a method which is highly abstract and deductive. Value and cost are never seen in their natural forms except where a single man or a united society stand in direct relation to nature, bartering costs for utilities. Picture an isolated man unaffected by the problems of exchange and distribution, and it is easy to see that values and costs have independent causes. Values result from subjective states in the man, while costs depend upon his objective environment. Costs are what man gives up in his barter with nature: values are a part of what he gets back.

In the case of an isolated man the relation of cost to value is obscured because of the high cost of commodities to an isolated worker, and because of the low value of these commodities. Without a division of labor and without that intelligence and capital which can be secured only in an organized society, the cost of commodities must always be high. The tendency of cost to fall shows itself only when these conditions are supplied by the growth of social relations between men. To the isolated man values are also low, because so much of his time must be given to the production of absolute utilities, which merely sustain life; and the lack of variety in his consumption reduces the marginal utility of the few articles he has almost to zero.

The complicated phenomena of modern society also obscures the relation of cost to value because of the unequal distribution of wealth. Instead of the values of all commodities following one law, the value of one class of commodities tends to sink until their value equals their cost, while other commodities have their value separated from their cost much

more than would be the case under other conditions. There thus arises that distinction between commodities freely produced and those which are not. The classical writers have made much of this distinction, and have tried to show that the value of freely produced commodities tends to equal their cost. Their law of value is, however, only a particular law, due to the effects of an unequal distribution of wealth.

The importance of this distinction between goods which freely produced and those that are not, depends upon the industrial facts of each age and nation. The assumptions of Ricardo are true only in a particular stage of social progress. He assumes that all the laborers have the same industrial qualities, and that all capitalists have the same intelligence, machinery and capital. He pictures a primitive society where there is no lack of either capitalists to manage or laborers to work, and where the cost of production to all competing manufacturers is the same. Prices are governed by the "common, usual, and natural difficulties," which all producers must encounter. In a society of this character the distinction of Ricardo is of prime importance, because scarcity affects the value of one class of goods and not the other.

In modern societies, however, the importance of this distinction has vanished owing to the radical changes in the methods of production. We no longer have a sharp distinction between monopolized and freely produced goods. Every commodity is produced under such complex conditions that some of its elements have a scarcity value. Laborers do not have the same industrial qualities and employers do not have the same machinery and capital. But more important still, capital and labor no longer freely unite in fixed proportions to form commodities as oxygen and hydrogen unite to form water. A third agent, the undertaker, is necessary, and his services have a scarcity value. Scarcity thus becomes an element in the value of every commodity, while the value of all classes of commodities is separated more or less from their cost.

Through the endeavor of the classical economists to make cost and value identical, much was done to confuse the relation between the two. Their error lay in trying to make the sum of subjective costs equal to that of objective value. Objective values, however, are never a sum, but only a relation between subjective values. There can never be high or low objective values of commodities as a whole. It is therefore, impossible to add to or subtract from them. Objective costs are also relations measured in money; and there can be neither high prices or low prices unless the value of money changes. There would then be no confusion if it were affirmed that objective values and objective costs were always equal. But such a law would be merely an identical proposition, of no use in economic theory.

The thought of the classical economists was to connect the efforts and sacrifices of production with the objective value of commodities. They recognized clearly enough that the efforts and sacrifices of production were sums which could increase and diminish, yet they sought to make this changing sum of efforts and sacrifices equal to the unchanging relations of objective values.

The contrast with subjective costs should always be subjective values. Although objective values can never change in amount, subjective values are sums like subjective costs. They are units of utility whose sum constitutes a part of the total utility of commodities. They can therefore be increased or diminished, their sum changing with the marginal increment of consumption.

High subjective values do not cause high objective values, though they often change the objective values of particular commodities. If at one time the subjective value of a bushel of wheat is 9 units and of rye 5 units, while at a later period a bushel of wheat has a subjective value of 11 units and of rye 7 units, the subjective value of both commodities has risen, because their marginal increments give more pleasure to consumers. The objective value of wheat, however, has fallen, because the same wheat will exchange for less rye than before. Every change in the sum of subjective values

will probably affect the objective value of some commodities, yet we must never overlook the fact that while subjective values usually go up and down together, because they depend upon the marginal increment of consumption, the rise in the objective value of one class of goods is always accompanied by the fall in value of some other goods.

In one respect, I think, the advocates of the theory of marginal values obscure the relation of cost to value by the importance they attach to the law of supply and demand. I agree with the Austrian economists in regarding the law of the cost of production as a particular law of value, but I do not think that anything more can be justly claimed for the law of supply and demand. By the use of hypothesis it is easy to create conditions where particular laws assume the character of general laws. By assuming a simple economic world where similar men have the same means of production, Ricardo gets a society where the law of the cost of production is the nearly universal law of value. By isolating a man from society and supposing him to have but a single means of supplying his wants, the Austrians seem to make the law of supply and demand, the general law of value. Yet I doubt if they have succeeded any better than Ricardo. While the increase in the quantity of a given commodity may always reduce its marginal value if its possessor is isolated from other commodities, it is not true that the same result would follow if the person had a variety of possessions. Would not the inhabitants of an isolated colony, with a dozen new houses, attach a higher marginal value to 2,000 panes of glass than they formerly attached to 1,000 panes?

It is proper to isolate a man from the conditions of production in order to fix the subjective values of commodities, but it is an error to isolate him from all other commodities to determine the value of a single commodity. If the values of a group of commodities possessed by an isolated individual are normal, he must choose the relative quantities of these commodities. If a shipwrecked sailor can choose the articles he takes ashore, he will take such a quantity of each article that the utility of the marginal increments will be

equal. The value of these articles will be normal because he can satisfy each want to the same degree, and will have no desire to alter the relative quantities of the articles he possesses. The value of commodities can be normal only when consumers control the relative quantity of each commodity. Then the value of the articles he takes will be normal, and the marginal increments of value will be equal. Suppose, however, the ship sinks suddenly, and he picks up certain articles on the shore. The quantity of each article is now the result of accidental circumstances over which he has no control; and the law of their value is the law of supply and demand. This law only comes into operation when objective conditions fix the supply of commodities, and prevent the consumption of a person from following purely subjective laws. The increase in this total supply of commodities consumed by a person results in lower marginal values when the consumer cannot control the quantity of each article and the variety of his consumption.

The investigations of subjective value should begin with purely subjective conditions, and bring in objective conditions only after all the subjective laws have been formulated. The success of the Austrian economists is due to the observation of this rule. I contend, however, that they violate their own rule by the way in which they introduce the law of supply and demand in their discussions.

The first and primary law of subjective values is that value depends upon the final degree of utility. The second law is that the value of the marginal increments of all commodities entering into the consumption of a person tends to be equal. This is the law of normal values, and from it we get the idea of the marginal increment of consumption. The third law is that the value of the marginal increment of consumption depends on the variety of consumption. A greater total production may have a greater marginal value for each commodity if the number of articles is increased. Twelve articles of two kinds will make the utility of the sixth article of each kind the marginal utility, while fifteen articles of three kinds will increase the marginal value of each kind to the utility of the fifth article.

These are purely subjective laws. There are three more particular laws that result from different relations between man and his environment. The variety of consumption reduces the cost of production, and hence a fourth law (derived from the third) is obtained, that while in a progressive society marginal values tend to increase, the cost of production tends to decrease. The fifth law is that marginal values tend to equal marginal costs in a society that has fewer increments of employment than of labor. This is the Ricardian law of freely produced commodities. The sixth law is the law of supply and demand. We cannot say that the increase in the total supply of the commodities will lower their marginal values to individual consumers, because there may be an increase in the variety of consumption. Nor can we say that the increase in the quantity of any one commodity will lower its marginal value, because a change in the quantity of other commodities may increase its marginal value. But we can say that when objective causes increase the quantity of an article beyond its normal amount, its marginal value will fall.

The main cause which obscures the relation of value to cost is the niggardliness of nature. While the classical writers usually maintain that the values of freely produced commodities do not exceed the cost of their production because of the law of competition, they have a reserve force in the combined action of the laws of population and of diminishing returns which really form the stronghold of their position. They contend that population increases so rapidly that the number of workmen exceeds the number of positions in which they can find profitable employment. It is a physical necessity which makes of the value of each commodity equal to the sum of its costs if there is a greater number of increments of labor than increments of employment. The number of increments of employment in any society is limited by the number of opportunities for labor in which the cost of the product is not greater than its value. The number of the increments of labor is fixed by the number of the laborers and the time they work. It is

one of the primary assumptions of the classical writers that the increments of employment are less in number than the increments of labor. Nature, they think, is so niggard in giving profitable opportunities for labor that the laborers have some spare time which has no value to them. Under these circumstances objective conditions fix the relation of value to cost, and it is of no practical consequence which one may determine the other. Change, however, the relation of the number of laborers to the number of opportunities for labor, and new possibilities arise. If every increment of labor creates a product greater than the quantity consumed in replacing the waste of production, the value of the product will be greater than its cost, and the tendency of values to follow subjective laws of the man, while costs follow objective laws of the environment, can be seen.

Suppose some ships lay stranded on a beach. Observers might affirm that ships can only rest on sand, and if one ship lay higher than another, it was because the sand under it held it higher. Let, however, the tide come in, and it will be seen that ships do not need sand to hold them up. They rise to the top of the water, and the sand remains at the bottom. If now one ship stands higher than the other, it is not because the sand under it is higher, but because of differences in the ships. One ship may displace more water than the other. As ships must have water, to show that they do not need sand to hold them up, so society must have a favorable environment to show that the value of its products does not depend on their costs. Values, like ships, rise while costs tend to fall, as society advances. The progress of society can be measured by the difference between its values and its costs, just as the depth of the water measures the distance from the ship to the sand under it. So long as the costs of commodities equal their values, society has made no real progress.

## XI.

## THE IMPORTANCE OF THE MARGINAL INCREMENT OF CONSUMPTION IN A DYNAMIC SOCIETY.

The influence of the classical economists has been against the recognition of those elements of progress which modify the wants of individuals and lead to changes in the consumption of wealth. By accepting, perhaps unconsciously, the position that the wants of men do not undergo any radical change during the successive stages of social progress, economists are led to assume that industrial progress merely increases the quantity of goods without producing any change in their quality and character. In such a society, where the wants of the people are static, the increased quantity of goods naturally leads to a fall in their value and this fall will not be checked until their marginal values equal their marginal costs.

This phenomenon of a static society is the groundwork of the Ricardian theory of the cost of production. Does the cost adjust itself to the value or the value to the cost? The Ricardians, relying on the facts of a static society, affirm that cost is the fixed point about which values may fluctuate but from which they can never long depart. Their proof seems good, and their law universal so long as the search for facts is confined to a society in which the consumption of its members is unchanged.

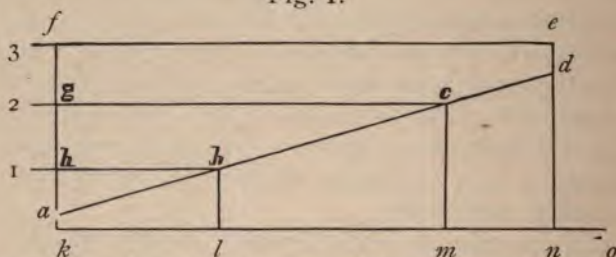
In a dynamic society, however, these phenomena are different. The increase of industrial efficiency is used in supplying new wants of greater intensity, instead of supplying old wants more completely. At the same time every increase in the variety of consumption enables society to transfer its labors from the margin of production in the old occupations to new occupations. With every change in a dynamic society, the marginal increment of consumption

supplies a more intense want, and hence the marginal values of commodities rise.

These facts cause the phenomena of value in a dynamic society to form a marked contrast with those in a static society. In the latter case the increase of industrial efficiency is used to supply old wants more fully, and thus marginal values must fall; while in the former case marginal values rise, in consequence of the transfer of labor from old to new occupations. If marginal values must gradually rise, because of the increase in the utility of the marginal increment of consumption, the question arises, how can marginal costs tend to equal marginal values? The same causes that increase marginal values lower the cost of production, and thus seem to render any correspondence of the two impossible.

The key to the solution of this problem lies in the increasing intensity of the pain of prolonged labor. Each additional increment of labor involves an increase of pain to the laborer; and he will cease working when the pain of the last increment of labor equals the utility of the last increment of consumption. Whatever increases the marginal utility of the commodities consumed will cause the laborer to work longer each day.

Fig. I.



We may imagine the pain of each increment of production to be represented in the above figure by the distance from the lines  $ad$  and  $kn$ ,\* while the marginal increment of consump-

\*In my reasoning, nothing depends upon the complicated curve which in reality the line  $ad$  makes. I shall, therefore, for sake of simplicity, assume that the first increment of labor each day involves some subjective pain,  $ak$ , and that this pain regularly increases with the lengthening of the working hours.

tion is measured on the line  $k f$  and the length of the working day on the line  $k o$ . When the marginal increment of consumption represents one unit, and is measured by  $k h$ , the length of the working day will be  $k l$ , and the marginal increment of production will have its pain measured by  $b l$ . When, however, the marginal increment of consumption is increased to two units,  $k g$ , because of an increase in the variety of consumption, the length of the working day will be increased to  $k m$ , and the pain resulting from the production of the last increment will be  $m c$ . Let the changes in consumption continue until its marginal increment is three units,  $k f$ , and the time of the working day would be extended to  $k o$ , while the pain of the last increment of production would equal  $k f$ , if no new motives enter to influence the producer.

When, however, the productive power of society has increased beyond a certain point the efficiency of the workman becomes so great that the time needed to consume what he has produced, cuts into the time needed for production, he ceases to work before the pain of the last increment of production equals the utility of the last increment of consumption. There is for the efficient workmen a surplus at the margin of production equal to the pleasure that could be obtained in using their time in unproductive consumption. I shall, therefore, assume that when the marginal increment of consumption equals  $k f$ , the length of the working day will be less than  $k o$ , say  $k n$ , and that the difference between the marginal increments of production and consumption is increased by each subsequent increase in the productive power of society. In a highly civilized society the pain of the marginal increment of production is reduced absolutely as well as relatively. The labor becomes so mechanical that it is less painful, and the length of the working day is shortened through the influence of forces made active by the increase of consumption.

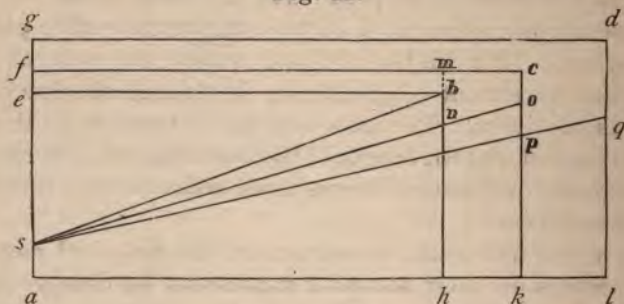
From this figure the dependence of the marginal cost of commodities on their marginal values can be clearly seen. Every change in the marginal increment of consumption brings some change in the pain of the marginal increment

of production. The cost of commodities in a dynamic society, is not a fixed point to which the values must adjust themselves. The phenomena of the static society are reversed since cost tends to adjust itself to value and not value to cost.

The figure also brings out the relation of total cost to total value.\* When the marginal increment of consumption equals one unit,  $kh$  measures the value of each increment of the day's work. The total value of the day's work will be the area  $k l b h$ , while the total cost will be the space  $a k l b$ . The laborer, will therefore, have a surplus of  $a h b$ . As soon, however, as the marginal increment of consumption changes from one to two units the value of each increment is doubled. The total cost of the day's work will now be the area  $a c m k$ , while the total value is  $k g c m$ . A still greater increase of the total value of the day's work will accompany the rise of the marginal increment of consumption to three units. The total value will now be the area,  $k f e n$ , the total cost  $a d n k$ , while the surplus will be equal to  $a d e f$ . The rapid growth of the surplus and of total value is the remarkable fact connected with the changes in the variety of consumption, and the rise of its marginal increment. Total cost also grows, but much more slowly.

By changing the figure somewhat the influence of the marginal increment of consumption on total cost and total value can be seen more clearly.

Fig. II.



\*In all cases where values are regarded as sums, subjective values are meant.

Let the lines  $ah$ ,  $ak$  and  $al$  measure the quantity of goods produced each day in three successive periods of the development of a dynamic society, and let the marginal increments of consumption of these periods be equal to  $ae$ ,  $af$  and  $ag$ . The three rectangles  $abeh$ ,  $afck$ , and  $agdl$ , will therefore represent the total value of the goods produced in each period. When the change is made from the first to the second period, through the increase of the marginal increment of consumption, the total value of goods produced in the early part of the day, and measured by  $ah$  will be increased by the area  $efmb$ . I do not, of course, mean that every increment will have its value increased by  $ef$ , the average increase. Some articles will rise much more than the average, and others may even fall in value; but, on the whole, there will be an increase of total value equal to the area described.

With the change from the second to the third period a similar increase in the value of the goods measured by  $ak$  will take place, and the total quantity of goods produced will be further increased by  $kl$ . The producer gains both by the increase in the quantity of goods to be consumed, and by the rise in their value.

In the successive periods, however, the average subjective cost of the increments of consumption decreases. The labor has increased in efficiency, and a greater use of capital and knowledge has been made. There has been also an increase in the variety of consumption through which much of the waste of production can be saved, and a better use be made of the land. For these reasons the lines  $sb$ ,  $so$  and  $sg$ , which measure the cost during the three periods, will not be parts of the same line. During the second period the cost of the commodities  $ah$  will be reduced by the area  $sbn$ , and in the third period the area  $so p$  will be cut off from the cost of the commodities  $ak$ .

A rise in the marginal increment of consumption affects not only the relation of total cost to total value, but also the relation of total value to the surplus of utility which consumers have in excess of the value of commodities.

Every increase in the variety of consumption by raising the utility of the marginal increment of consumption reduces the consumer's surplus of utility, and causes the total value of commodities to approximate more closely to their total utility.

Fig. III.

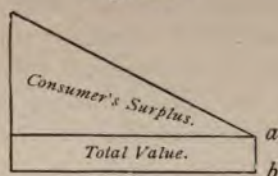
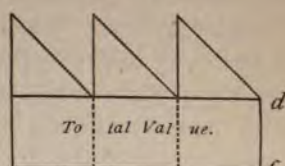


Fig. IV.



Let figure III. represent the utility of the food consumed by a person using only one article, say potatoes, and let figure IV. represent the consumption of the same person during another period when he has three kinds of food, each of which affords a pleasure of consumption equal to that of potatoes. During the first period, when he must subsist on potatoes alone, the marginal increment of consumption  $a b$  will be low, and the total value of the potatoes will be small in comparison with the consumer's surplus of utility.

During the second period he uses the same quantity of food, but of three kinds. The marginal utility of each food will now be much greater than  $a b$ , and total values will rise at the expense of the consumer's surplus. If we suppose  $c d$  to be double  $a b$ , the following table will show the changes in the proportion of total value to total utility, and to the consumer's surplus in these figures.

	III.	IV.
Total utility, - - - - -	15	18
Total value, - - - - -	6	12
Consumer's surplus, - - - - -	9	6

It will be noticed that while total values were doubled by the change, the consumer's surplus is reduced by a third. Every increase in the variety of consumption has a similar effect. The consumer's surplus is swallowed up by the growth of total value, and the latter constantly approximates more closely to the total utility.

**This** conclusion is, of course, different from that drawn by classical economists. They assume that progress lowers prices, and gives to consumers the benefit of improved production. If my conclusion is correct, individuals as consumers lose more than they gain by social progress. What they gain they secure chiefly through their power as producers to compel society to give them a larger share in distribution. Whoever has not this power, loses through the progress of society.

## XII.

THE DISTRIBUTION OF SUBJECTIVE VALUES.

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Thus far I have disregarded the difficulties of the distribution of wealth, and its effects on the value of commodities. It was necessary to do this to free the discussion from many of the complex relations which arise in modern society. In the Ricardian economics the theory of distribution holds so dominant a place that correct theories of production and consumption are likely to be distorted by preconceived ideas. To prevent this, the physiscal basis of economics must for a time be kept out of view. By following this order of development my task was made easy by the fact that all the disagreeable aspects of the science lie in the consideration of the problems of distribution. It is more pleasant to describe the surplus of production than the deficit of distribution.

It is greatly to the credit of Ricardo that he applied his premises unflinchingly, even to the most dismal facts. Had he been held back like Malthus, by optimistic doctrines, the theory of distribution would have relapsed into that hazy condition in which it was left by Adam Smith. The stability of Ricardo's system is due largely to his willingness to test his theory by unpleasant facts—a test which any new theory must also meet.

There is, however, a more cogent reason for a re-examination of the theory of distribution. Ricardo goes out from certain physical premises. By emphasizing the differences in nature he makes his theory of distribution depend upon the laws of rent and diminishing returns. An economic theory, however, that starts from man and society, must make its deductions rest upon the subjective differences which result from social progress. It must couple differences in men with the common qualities of land, just as Ricardo

made the differences of nature and the common qualities of men the starting point of his system.

While natural forces are free to society, they are appropriated, and individuals who are without them must pay for them. The accumulated results of civilization are also free to society, but costly to many of its members. The power to make use of the knowledge and experience of the race, is confined to those who have inherited certain mental qualities, or have acquired them by education. These persons appropriate the accumulated wisdom of the past in the same way in which land owners use the results of natural forces.

There are thus two causes that give rise to an unequal distribution of wealth, one of which is subjective, and the other objective. The objective cause lies in the differences of return obtained from the various instruments of production used by men. The subjective cause lies in the differences in men, accompanied by differences in the urgency of the wants that different laborers supply. Differences in land form so good an example of the objective cause that it needs no farther illustration. The subjective cause is not so fully understood, and demands careful attention.

As a result of earlier conditions, society is divided into two parts—men with economic instincts, and those who lack these instincts. Those who save, or have faculties needed to organize our great industries, become capitalists and employers, while the laboring classes, having their industrial qualities less fully developed, must follow manual occupations. The laboring classes, in a highly developed social organism, get work, not by the direct utilization of natural forces, as is the case in a simpler social organism, but by supplying the wants of the higher classes. With every increase in population, a better use of labor and natural forces must be made in order to supply the increased demand for food and other commodities; and, as a result, the laborers become more dependent upon the higher classes who have the industrial qualities needed to increase production as rapidly as population increases. A growing nation can continue progressive only by placing its industries

more completely under the control of the intelligent classes, yet this increased control adds to the evils of distribution. The laborers now get their living, not as before directly from nature, but indirectly by supplying the wants of the higher classes. In any society where the laborers are increasing more rapidly than the employing classes, the additional laborers get work only by supplying the less intense wants of the higher classes who control and organize industrial forces. There will thus be a constant tendency towards a lower rate of wages, because some of the laborers will be engaged in producing articles supplying wants of the higher classes of so little intensity that only a low rate of wages can be paid. No one will give more for an article than the pleasure he gets from it; and wages must fall when the public are so well supplied with commodities that the consumption of additional quantities will give them but little pleasure.\*

An increase in the number of laborers, therefore, in any occupation, tends to lower the wages of laborers, because these additional laborers bring upon the market goods which are used to supply wants less intense than those supplied by the previous laborers who are producing the same goods. Suppose, for example an additional one hundred men should wish to get work of an employer, who already had one hundred men and one hundred thousand dollars capital. He must now save another one hundred thousand dollars, in order to employ them. With the return which he obtained from the first one hundred thousand dollars, he supplied his most intense wants, and if he is to save another hundred thousand dollars, he would only do it to supply his less intense wants—such as are not already supplied. He will not supply these less intense wants, unless the men will work for less wages. The additional one hundred men, therefore, will be compelled to work for lower wages, and then the wages of the first one hundred men will also be reduced. Competition brings all wages down to a level.

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\* Compare Chapter VIII in the writer's *Economic Basis of Protection*.

So long as the development of a society is unaffected by the evils of distribution every increase of productive power enlarges the variety of consumption, and causes the total value of commodities to approach more nearly to their total utility. The unequal distribution of wealth reverses this tendency, and lowers the marginal increment of consumption. The changes that follow the organic development of society are checked, and the wealthy remain so static that they use their prosperity to supply old wants more fully, instead of increasing the variety of their consumption. Their pleasures become perverted, and they expend their income largely in conventional ways that will distinguish them more fully from their less fortunate neighbors. This end can be best reached by duplicating as often as possible the means of supplying their wants. They use more servants, they keep more horses, they occupy several houses, and wear a greater variety of clothes and ornaments. As each additional servant, house or other article has less utility, the value of the final increment of their consumption sinks quite low.

The same change takes place among the less fortunate part of society, whose wages are lowered. Each individual must have certain absolute utilities which are necessary to sustain life. If his condition is improved, he will exchange these absolute utilities which ward off pain but give little pleasure, for other articles that have a higher positive utility. When the pressure of an unequal distribution of wealth reduces his income, he gives up the articles in the reverse order in which he brought them into his consumption. Articles of a high degree of positive utility are given up first, and other articles having merely an absolute utility are substituted in their places. Cheaper articles can usually be obtained, which will prevent hunger, thirst and other natural causes of misery. The marginal increment of consumption of the laborer is, therefore, lowered by the same causes that lower the marginal increment of the more fortunate classes.

The changes following a more unequal distribution of

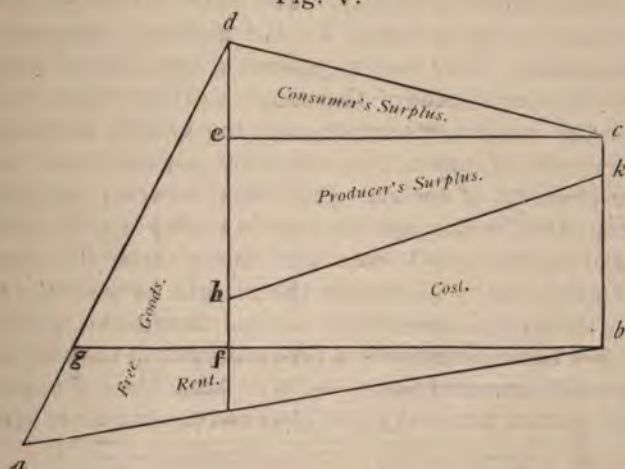
wealth affect all classes of consumable goods in the same way. They fall in subjective value, because the marginal increment of all classes of consumers is reduced. By these changes, the laborers suffer a double loss; the value of the marginal increment of production falls, and a greater part of their consumption is composed of articles which merely ward off pains. The wealthy, however, secure a double gain. The value of the goods they consume, is lowered by the fall in the marginal increment of consumption, and at the same time the surplus of utility above value that consumers secure is increased. The consumer's surplus grows with every change that increases the quantity of goods consumed without increasing their variety.

The total utility that a society derives from its economic environment is divided into five parts. The cost represents the part of the utilities needed to restore to producers the vitality lost in production. Rent is the share received by the owners of natural resources. Producer's surplus is what producers receive above the *real* subjective cost of their articles. Consumer's surplus is the utility which consumers get above the value of the commodities they consume. Free goods are those utilities which are furnished by nature without the coöperation of man; they are free to society, but when appropriated have a cost to individuals who are without them. Air, sunlight, water, mineral resources, and even the mountains and seashore, when used as pleasure resorts are goods of this character. In this division subjective values are divided into cost and producer's surplus. Cost, therefore, is viewed from the standpoint of society, and not from that of employers or of consumers. The producer's surplus includes not only employers' profits, but interest also and the surplus of the laborers. The surplus of all the active participants in production is thus contrasted with the income derived from rent. In a society where the distribution of wealth is unequal, rent, free goods and consumer's surplus pass very largely out of the hands of the producing classes. Rent, of course, goes to land holders. Consumer's surplus is mainly received by those whose incomes are so large that they can

duplicate the articles of their consumption which supply the same wants. The less fortunate classes in society get but little of this surplus of utilities, since the greater part of their incomes is used to procure articles that are absolute utilities, but have not much positive utility.

In the early stages of social progress, fuel, pasture, and many kinds of food are free and enjoyed by all classes of society. Gradually these utilities are appropriated and must be paid for by the producing classes. At the same time another class of free goods, such as water, light, and air, lose their purity and excellence, except under particular circumstances. Where men congregate together in large cities, the water and air become impure, while the massing of buildings in a small space shuts out the sunlight. The lack of these free goods in a pure form is a source of disease and suffering, unless the income of the individual is so great that he can live in parts of the city where they are good. City life is also so depressing that relief must be sought in the summer months in the mountains, or on the seashore where pure air, water, and light are still to be secured. But the incomes of the less fortunate classes are not large enough to allow such expenses, and hence these free goods fall into the possession of the wealthier classes.

Fig. V.



Let the total utility enjoyed by society be represented by the area  $abcd$  cut up into the five parts I have mentioned. The interests of producers lie almost entirely in the rectangle  $bcef$ , the size of which depends upon  $bc$ , the marginal increment of consumption. As  $bc$  is lengthened the consumer's surplus is absorbed by the producer's surplus, because the greater variety of consumption permits the use of fewer commodities in ways that make them mere duplicate supplies of the same want. At the same time the greater variety of consumption allows the use of the land for what it is better fitted. Cost is thus reduced, and rent falls because the poorest land for each commodity ceases to produce it. Every dynamic change in society increases the distance between  $ec$  and  $fb$ , and causes the producer's surplus to grow at the expense of all the other classes of utilities. Whatever reduces the marginal increment of consumption counteracts these changes. Consumption becomes more static and less varied. In this way the surplus of consumers is increased, and by putting the land to fewer uses rent and cost are also increased. Agricultural rent and consumer's surplus thus increase and decrease by the same causes. Few wants mean high rents and a large consumer's surplus.

There is thus a conflict of interests between the static and dynamic elements of society. The static tendencies reduce the area  $bcef$  by reducing  $bc$ , the marginal increment of consumption. They tend to produce a low value of finished goods and a high value of the materials of production.\* The larger the consumer's surplus and the greater the value of the materials of production, the more powerful will be the static elements of society. Producers, however, and those interested in the dynamic changes in society, gain by a high value of finished goods and a low value of material. Society progresses only by increasing the margin between the two.

The subjective cause of the unequal distribution of wealth therefore lies in differences in producers and in the static condition of the consumption of society. Make the differences in the productive power of the higher and lower classes greater

\* See the writer's *Premises of Political Economy*, page 146.

han they are, and the evils of distribution will grow. Make also the consumption of a society more static, and these evils will become still greater. Differences in land and other objective causes of an unequal distribution of wealth are prominent only in the early stages of civilization, where differences in men are small and their consumption static. The growth of intelligence reduces the differences in land by making poor land better land, while the increase of the variety of consumption hastening this change reduces the quantity of rent due to physical causes.

The Ricardian theory therefore, is, not the only explanation of the unequal distribution of wealth. It is not even an adequate explanation of the leading phenomena of distribution in modern industrial societies. Like the theory of the cost of production and other Ricardian doctrines it sets up a particular for the general law. It derives its strength from an undue emphasis of primitive conditions where men are most dependent on nature, and their consumption has the least variety. It is at best a theory of a society the ideas and wants of which are so static that the utilization of the less productive instruments of production offers less resistance to progress than any change in the use of the better instruments.

## XIII.

## THE DISTRIBUTION OF OBJECTIVE VALUES.

In the foregoing section but one class of the laws of distribution has been considered—that relating to subjective values. The marginal unit of consumption fixes the producer's surplus, and every change in it increases or diminishes the share that each class in society receives. The whole producing class, however, is considered as a unit; its interests are contrasted with the more static classes in society, who appropriate rent, as well as the greater part of the free goods and consumer's surplus.

In a primitive society before the sub-division of the producers into classes, the laws of distribution which depend upon changes in subjective values would be an adequate explanation of the phenomena of distribution. Wages, interest, and profits make up the income of each producer, and he draws no sharp distinction between them. But he does see the opposition between his interests and those of the land-owning classes and other non-producers. He feels the burden of rent, and is conscious, perhaps, that he is deprived of his share of free goods and consumer's surplus. In a more advanced society the producers become separated into classes, and the problems of distribution become more complicated. The laborers feel that their interests do not harmonize with those of their employers, and the latter assume a function in society distinct from that of the capitalists, who save but are not active in production. Wages, interest, and profits become distinct funds, each of which has its own law of increase. At the same time, rent ceases to be a single fund determined by one law. The rents from agricultural lands, city lots and mines, are distinct funds. Even mountain and seashore resorts have rents whose amount depends upon a distinct class of considerations.

In the discussion of subjective values we considered the relation of total values to total utilities, and showed under what conditions the sum of subjective values increases and approximates more closely to the sum of utilities. Every increase in subjective values increases also the difference between the total cost of production to society and the sum of subjective values. The surplus revenue, which forms the difference between the two, is the sum for which each factor in distribution is striving, and the laws of its distribution are those for which we are seeking. There can be no doubt but that each factor will secure enough to repay its costs, yet as society progresses and the difference between total costs and subjective values increases, any factor loses a relative advantage if it fails to secure its share of the surplus revenue.

In this way the problems of distribution change from a consideration of subjective to objective values. The power of any class of producers to retain or increase its share of the surplus revenue depends upon its ability to control the objective value of its products. The subjective value of the products may be high, yet if the ratio at which they exchange for other commodities is low the producers will get but a small share of the surplus revenue. If at one period the subjective value of commodities A and B is three units each, and subsequently the subjective value of A rises to four units and that of B to five, the producers of A will lose by the rise of subjective values, because the rise will take from them, in every exchange, a part of the surplus revenue they formerly enjoyed.

In a change of subjective values the opposition lies between the producers as a class and the consumers as a class. The higher the subjective value the greater the part of the whole sum of utilities which the producers will secure, and the less will be the share that the consumers get with no cost to themselves. In changes in objective values the opposition of interests lies between various classes of producers. The consumers are neutral because they gain by the fall in value of one class of articles what they lose by the rise of another

class. Each class of producers, however, has a direct interest in creating a high objective value for its products, thus lowering the objective value of other classes of goods.

Therefore, we must first discover how changes in the relative shares of the different factors in distribution show themselves in the objective value of commodities. In what way will high wages change the proportion in which commodities exchange for one another? Can a reduction of the rate of interest, for example, be discovered by examining the changes in the objective values of different classes of commodities? Mill, as well as other economists of the classical school, denies that the objective values of commodities are affected by changes in distribution. "A rise or fall of wages," he says, "is a fact which affects all commodities in the same manner, and, therefore, affords no reason why they should exchange for each other in one rather than in another proportion." High wages are supposed to result in low profits, and low wages in high profits, without any change in objective values.

The recent development of economic doctrine, however, has modified this conclusion, and has shown ways in which the objective value of different classes of commodities can change without having general high values as a result. The recent discussion of the law of interest has had great influence in clearing up the ideas of economists on this subject. It has been clearly shown that interest results from the difference in values of present and future goods. Every change in the rate of interest affects the objective value of these classes of goods. A high rate of interest (or of profits, in the terminology of Mill) does not result in low wages, but in higher objective value of present goods.

A high rate of wages does not affect the value of all commodities alike, as Mill supposes, but raises the objective value of commodities which are produced mainly by labor. It shows itself in the two ways. Those commodities that are produced without much fixed capital rise in value at the expense of commodities produced with more fixed capital. Finished goods also rise in value with an increase of wages, while the raw material falls in value.

Rent rises with every increase of the value of raw material as compared with the value of finished goods.\* Every increase of the approximation of the value of the raw material to the finished goods produced from it reduces wages and adds to rent. The opposition of interests between laborers and landlords is direct, and any advantage gained by one over the other is revealed by changes in objective values.

Profits arise chiefly in the newer industries where the changes in the methods of production are most rapid. A fall in profits, therefore, would lower the objective value of commodities produced in these industries and raise the value of goods produced in the stationary industries. If steel be a sample product of the newer industries, and calico of the older industries, a fall in profits will cause more pounds of steel to exchange for the same number of yards of calico; that is, the objective value of steel will fall, and that of calico will rise.

A rise in the objective value of a particular class of goods is not at the expense of consumers, but of other producers. The objective value of other classes of goods is lowered to the extent that the first class of goods rises in value. If, for example, the price of sugar rises a cent a pound, the producers of sugar have transferred into their hands a sum of satisfactions which was formerly enjoyed by other classes. Out of what fund does it come? Not come from costs, because each producer must have the equivalent of his real costs. It must come either from the surplus of consumers or that of producers. The size of the consumer's surplus depends upon the difference in satisfaction between the marginal increment of consumption and the previous increments. Consumer's surplus grows with changes which decrease the variety of consumption and lower subjective values. It decreases under the opposite conditions. A rise in the price of sugar would tend to reduce the variety of consumption and to lower subjective values. Consumer's surplus, therefore, would be increased rather than decreased

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\* *Premises of Political Economy*, Chap. IV.

by the rise in the price of sugar. The consumer's surplus in the consumption of sugar would, of course, be decreased by the rise in the price of sugar, but the whole consumer's surplus and not some one part of it, must be kept in mind. If the marginal increment of consumption is not changed, what the consumers lose by the rise in the objective value of one commodity, is regained by the lower objective value of other commodities.

The same conclusion may be reached by another line of reasoning. If the expense of buying sugar nearly equaled the pleasure derived from its consumption, the increase in price would so reduce the consumption of sugar that the net profits of the producers would be reduced. If producers find it profitable to raise the price of sugar, a great part of the sugar must supply urgent wants. The consumers, therefore, would reduce their consumption of other articles to enable them to supply their urgent desire for sugar. Those articles would be affected the most whose utility barely exceeded the expense of securing them, while the reduced demand for them would lower their value. Consumers would thus obtain a recompense, and the gain of these producers would be the loss of other producers.

The reasoning becomes simpler and clearer when we think of a dynamic society when its productive power is increasing and the marginal increment of consumption is rising. The consumers as a class could not gain by the increase of productive power because a rise of the marginal increment of consumption reduces the consumer's surplus. A rise in the price of sugar, therefore, would put a larger share of the gains of improved production into the hands of the producers of sugar, to the detriment of other classes of producers. The loss of the other producers is in this case not absolute but relative, which is the character of most of the losses under present social conditions.

If we think in general terms, overlooking the effects on particular commodities, it is not difficult to see that changes in objective values do not increase the expenses of consumers, but reduce the gains of other producers. While most

persons, have definite ideas concerning the relation of cost and value, they have no definite idea of the relation of value to utility. They think of utility in a misty fashion as exceeding value, but having no fixed relation to it. We must become conscious of the definite relation in which utility stands to value before we realize that the consumer's surplus is a definite quantity whose size is controlled by clearly defined laws. It is not a dumping ground where, for lack of proper classification, utilities can be stowed away. In accepting the doctrine that value depends upon marginal utility, consumer's surplus becomes one of the most simple and definite concepts of economic science.

At this point we must pass from subjective to objective values. The share of the surplus revenue secured by each class of producers depends upon the objective value of what it produces. Each producer strives to increase the objective value of his commodity, thus decreasing the relative share in the surplus revenue of other producers. If, like subjective values, objective values were a sum to which we could add or from which we could subtract, we would have general high values or general low values. The impossibility of such a result should be a convincing proof that the higher objective value of one class of goods is impossible without a lower value of some other class of goods. It is not a change in costs which affect objective values, but changes in the relative increase of different classes of goods.\*

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\* This section and the following should be read in connection with my *Stability of Prices*, (American Economic Association, Vol. III, No. 6), as in it the basis of my reasoning is more fully presented.

## XIV.

## THE MINIMUM SHARES IN DISTRIBUTION.

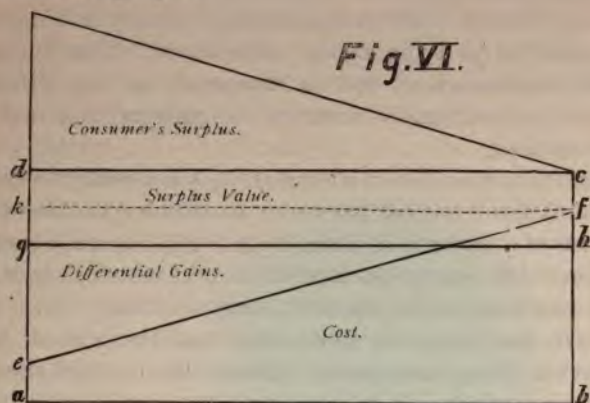
As soon as we realize that changes in objective values result from changes in the relative rates of increase of the various factors of production, it is evident that the shares of the more rapidly increasing factors tend to decrease, while that of the more slowly increasing factor tends to increase. It is important, therefore, to determine what is the lowest limit to which the share of each factor can be reduced when its rate of increase is too rapid.

At first thought it would be said that the shares of the more rapidly increasing factors will be reduced until all the surplus has passed into other hands. This point would be reached when the subjective costs of the factor just equaled the subjective value of its products. It is impossible, however, to exclude a factor from all participation in surplus revenue because of differential costs. Differences in fertility and in situation enable the owners of better lands to secure a share of the surplus, though the owners of the poorest land are entirely shut out. The different cost of producing goods permits the better class of employers to hold on to a part of the surplus, even if other employers get no profits. And the same causes always enable some of the capitalists and laborers to secure differential gains. In a progressive country it is doubtful if wages ever are so low that the subjective cost of the products of the marginal laborer merely equals their subjective value. The standard of life of his class acts as a barrier to the fall of wages, securing for him some of the surplus.

It is not probable, therefore, that the shares of the more rapidly increasing factors are forced to their lowest limit. The fall of the objective value of their products reduces the rate of the increase, while the rise in the objective value

of the products of the more slowly increasing factors adds to their rate of increase. Unless the difference in the rates of increase is very great, an equilibrium will be secured before any factor is forced down to its lowest limit.

The limits to the changes in objective values can be seen in the following figure.



The whole figure represents the sum of satisfactions derived by a society from articles of value. The area  $a b c d$  represents the sum of subjective values, the line  $b c$  the marginal increment of consumption, and the area  $a b f e$  the subjective cost of producing increasing quantities of goods. The line  $b f$  being the cost of the marginal increment of production, the line  $c f$  will equal the difference between the marginal increment of consumption and that of production.

These two marginal increments will not be equal. The second remains less than the first in any society where environment is so favorable that the laborer obtains a surplus from the last increment of his production. Differences in our estimation of present and future goods increase still more the difference between the two marginal increments. The increase of value due to the change of future good into present goods is a surplus value, and while interest is paid the marginal increment of production must be less than that of consumption. If the former increment were equal to the latter there could be no interest, nor could the

marginal laborer produce a subjective value greater than the sum of his subjective costs.

The surplus revenue divided among the factors in distribution is equal to the sum of subjective values  $a b c d$  minus the subjective cost of production  $a b f e$ . This surplus is divided into two parts. The differential gains are fixed by the difference between the cost of the marginal increment of production and the earlier increments. The remainder is the surplus value, and is measured by the difference between the marginal increment of consumption and that of production.

In relation to differential gains it is necessary to call attention to the fact that the order in which the different increments of a factor will come into use when more increments are demanded is not the same as that in which they will go out of use when fewer increments are wanted.\* If a given field will not come into cultivation until the price of wheat is 80 cents it may not go out of cultivation until the price falls considerably. If 70 cents was the cost of producing a bushel of wheat, and 10 cents gave an adequate return for the cost of bringing the land into cultivation, a change in the relative increase of land would allow the price of wheat to fall to 70 cents before the withdrawal of lands would exert an influence on the price of wheat. It is needless to explain how the same causes affect the other factors of production. The effect of this difference is to increase the possible fluctuations in objective values, and to reduce considerably the amount of differential gains which the more rapidly increasing factors can hold when the value of their goods tends to fall.

If the line  $b f$  represents the cost at which the marginal increment of production was first produced, a shorter line  $b h$  will represent the minimum cost, below which the increment would cease to be produced. Therefore the line that separates differential gains from surplus value is  $h g$ , and not the line  $f k$ . Differential gains under these conditions represent the minimum shares of the different factors in the

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\**Premises of Political Economy*, page 34.

surplus revenue and they cannot be reduced without an actual decrease of production.

In our figure three of the four areas, representing consumer's surplus, cost, and differential gains are fixed by causes independent of changes in objective values. Changes in objective values can only alter the distribution of the surplus value. Whether any factor obtains a large or small share, depends upon its relative rate of increase; and as the relative rates of increase change from time to time parts of this surplus value will be transferred from factor to factor.

The most extreme case would be when there was no demand for an increase of any of the factors but one. The most slowly increasing factor would secure all the surplus value, and the more rapidly increasing factors would obtain none of the surplus, except their share of the differential gains. Such a condition of affairs would never happen under actual conditions. It merely represents an ideal case, and shows how the distribution of surplus value depends upon objective values. Most of the differential gains, however, will be absorbed by rent and profits. In the earlier stages of progress rent will be the prominent element, while in later stages profits become more important. The increase of intelligence causes society to esteem more highly what was previously regarded as the poorer natural resources, thus reducing the relative importance of rent, and at the same time the increasing differences in men tend to augment profits.

There is, however, no sharply defined line between rent and profits on the one hand, and interest and wages on the other. The area  $g h f k$  may, under some conditions, be a part of rent and profits and under other conditions it may be absorbed by interest and wages. In a dynamic society the tendency becomes stronger to confine rent and profits to differential gains and to give all the surplus value to the capitalists and laborers. Yet any change in the relative rates of increase of the various factors will change the distribution of the surplus value, giving a part of it to landlords or to the managers of industries.

The recent fall in the value of agricultural land throughout the Eastern States is an example of the manner in which the distribution of surplus revenue is changed from one class of producers to other producers. There has been no fall in the retail price of food in Eastern cities; thus showing that consumers have gained nothing by the fall in the value of farm produce. What the farmers have lost has been secured by those classes of producers who stand between the farmer and the consumer of food. A part of the surplus revenue of society, which was distributed as rent, has now become profits.

The classical economists lay much stress on the law that rent does not enter into the cost of production, and Walker in developing his theory of profits claims that the same is true of profits. According to the newer conception of the laws of value, cost of production does not determine values, and hence the law in question cannot be conformed to present views of value. This law, however, can be expressed in another form. Instead of saying that rent and profits do not enter into the cost of production, it should be said that differential gains do not affect objective values. The latter law asserts the truth of the former in a way that is free from objection.

Let me repeat in outline the theory presented contrasting it with that of the classical school. We begin with the distinction between cost and surplus. Cost is the pain of production, while surplus is the excess of satisfaction obtained by society in the consumption of economic goods above the cost of producing them. Both cost and surplus are subjective quantities. They are sums to which we can add or from which we can subtract. The surplus is now divided into three parts—free goods, consumer's surplus, and surplus revenue. To draw the line between consumer's surplus and surplus revenue we must fix the marginal increment of consumption. This increment—the last increment consumed—has no consumer's surplus. The consumer's surplus thus becomes a definite fund whose amount is determined by the marginal increment of consumption. This division cuts off from the

whole surplus a definite quantity which is given over to the consumers without expense to them. The remainder of the surplus is surplus revenue. It is a part of the expenses of consumers, but is not a return to producers for their real costs.

We next divide surplus revenue into two parts—differential gains and surplus value. The first is fixed in amount by the differences in the cost at which different articles are produced. Differences in nature cause rent; differences in men cause profits. The distribution of surplus value is determined, however, by changes in objective values. This is the only portion of the surplus, therefore, whose distribution is not fixed by abiding causes, making the contest between different classes of producers for a larger share in distribution a struggle for the surplus value. Its distribution is determined by the rates of increase of the various classes of producers, because the objective value of goods depends upon their relative rate of increase.

There are thus three laws of distribution, each controlling a particular portion of the surplus. To determine the whole distribution three independent investigations must be made: the first relates to the marginal increment of consumption, because it determines the amount of consumer's surplus; the second to differential costs, because they determine the amount of differential gains; and the third to the rates of increase of the various classes of producers, since they determine the distribution of the surplus value. No theory of distribution is complete without a clear knowledge of these laws and their effects.

The classical theory, however, begins not with a contrast of cost and surplus, but of cost and objective value. The labor theory of Adam Smith is brought in to show that objective values of different commodities depend upon and are equal to the cost of their production. Differential gains are recognized by Ricardo in the form of rent, and surplus value appears in the form of profits. The laborer does not share in surplus value because population tends to increase more rapidly than subsistence. The margin of cultivation determ-

ines the amount of rent and the rate of profits. The fall the margin of cultivation takes the surplus value from capitalist, giving a part of it to the landlord as rent, and remainder is absorbed by differential costs. The law of rent thus becomes the central point of the Ricardian theory of distribution. The assumed existence of no-rent lands makes rent a definite share that can be cut off from the whole product independently of the other shares in distribution. Each of the other shares is cut off in the same independent manner, and what is left after all the other shares have been cut off goes to the residual claimant. Who this claimant is, is a matter of dispute among the followers of Ricardo, though they all follow his general plan of dealing with each share independently of the other shares, and, logically at least, always have a residual claimant. Consumer's surplus is not clearly defined; its boundaries are indefinite and its laws are not investigated.

In the new theory consumer's surplus takes the central place occupied by rent in the old theory. There is a no-consumer's surplus increment of consumption in the place of a no-rent tract of land. As differential gains do not lie at the basis of the new theory, the controversy as to no-rent land loses its theoretical importance. The new theory predicates differences in soils, but it does not need the assumption that there are soils of all degrees of fertility. It also predicates differences in men, but it does not assume that there are always men so inefficient that their products only equal their costs. These differences are facts of interest worthy of investigation, but are of little importance either in the theory of value or of distribution.

## XV.

RETAIL PRICES.

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In the discussion of the laws of distribution it is traditional to consider the product of industry as divided among the different classes of producers. The whole mass of present goods—the annual produce of industry—thus becomes either rent, profit, interest, or wages. If we take a purely objective standpoint it is evident that the material products of industry at the end of each productive period are in the hands of the producers, and must in some way be divided among them. The primary question of distribution, however, is not the distribution of the material products, but of the satisfactions which their consumption affords.

The satisfactions of the individual consumer lie at the basis of subjective values. His estimates are those which determine the direction and amount of production. The starting point for determining subjective values therefore is consumers' values. Producers' values are secondary, depending upon consumers' values, and to which they must stand in some definite origin. They are separated from each other by a gulf, the origin of which must be investigated, and its width determined.

Producers' values, it is almost needless to say, are wholesale prices, while consumers' values are retail prices. The classical economists gave to wholesale prices their main consideration. They assume that retail prices are separated from wholesale prices by a certain margin. They admit that the law of competition works with more friction in retail than in wholesale prices, yet they see no need of a special law, giving the subject little attention beyond a few remarks as to the influence of custom and habit. From their standpoint this scanty attention to retail prices is justified. If costs determine values and the distribution of wealth is

determined almost wholly by objective facts relating to the environment; if rent is determined by differences in soils, and profits and wages by the margin of production—then all the vital problems of value and distribution are settled before the distribution of commodities to consumers begins. Retail trade has no connection with economic theory and may be neglected by theorists without any loss.

But if we take another conception of the cause of value and decide that the value of commodities depends not upon their cost of production, but on their utility to consumers, the relation of retail to wholesale prices is an important link in the theory of values. The retailer stands nearest to the great body of consumers, and his prices are those that determine what shall be the relative quantities of the different commodities consumed. If he can charge more for bread when improved production is reducing the price of wheat, or if a higher price of meat accompanies the social changes which reduce the price of cattle and hogs, the causes that fix the relation of retail to wholesale prices must be vital to the theory of values. Custom and habit might account for the slowness with which a reduction of retail prices follows a fall of wholesale prices, but they cannot account for a change in the opposite direction.\*

A rise in retail prices indicates certain changes in the social organism by which the utility of the retail dealer to the consumer has been increased; and the cause of this increased dependence of the latter on the former becomes evident as soon as we clearly picture the changes in family life that have accompanied the increase of productive power in modern times. When the productive power of a nation is small the people are compelled to economize as consumers in order to exist at all. The most available means of economy consists in living together in large numbers. A large family can be economical in many ways which are impossible in a smaller one. The supplies can be purchased in large quantities; the waste of the table is reduced; and a much

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\*See Patten, *Principles of Rational Taxation*, Publications of the University of Pennsylvania, No. 6.

smaller proportion of the members is taken from production to provide for household comforts. Usually the journeymen and apprentices live with the master, and they delay marriage so long that the number of families is small in proportion to the whole population.

With the increase of productive power comes a regressive tendency in consumption. The master lives by himself and each of his workmen is enabled to have his own family life. Though this change is to be regarded as a social improvement, it is necessarily accompanied by great losses in consumption. Household work falls into less intelligent hands and the waste in cooking is increased as the families decrease in size. The small family cannot so readily buy food in large quantities and store it away for future use; while in cities it becomes impossible to keep a stock of any size for lack of proper facilities. The cellars are now filled with furnaces to heat the houses, and are thus rendered unfit for storing away anything but coal. In most families the possibility of storing food is limited to a small ice box.

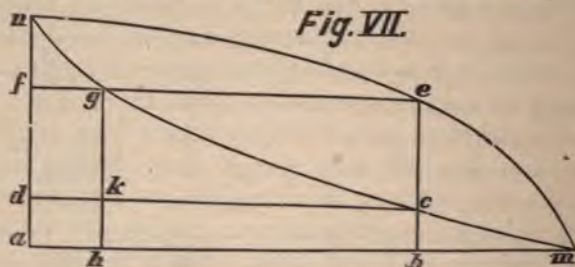
In these and in many other ways the dependence of the consumer on the retail dealer has been increased by modern progress. As the size of consumers' units becomes smaller, the power of the retail dealer over the consumer grows, until he finally becomes a necessity. He is not, however, to be looked upon as a burden to the consumer, since he places articles in the consumer's hands in a form that increases their utility. Just as the making of cloth has been taken from the family and placed in the hands of particular producers, so the storing and distribution of food and family supplies have been taken from the family and given to retail dealers.

Economists have recognized the social changes by which the making of cloth and other articles has been taken from the family and given to a special class of producers, but they have not adjusted their theories to the other social changes which make the home more private and a place not fitted for storing food and goods. The prices they have in mind are not those that the consumer must pay under his present condition, but wholesale prices from which the con-

sumer is separated by an impassible gulf. Commodities in the possession of wholesale dealers are but partially produced. The farmer in raising wheat creates a form value, the transportation companies give it a place value, and the retail dealer in bread gives it a time value. Any theory of prices that considers only the first two changes is incomplete, and shows how inherited notions prevent men from seeing the actual condition of our industrial affairs.

The relation of consumers to the producing classes is seen more clearly perhaps by making the retail dealers the representatives of all the producing classes. They exert the pressure by which the changes in objective values are affected and through which the distribution of surplus value is determined. Their direct contact with the consumers enables them to determine which articles can be raised in price and which must be lowered so as not to lose their market. Any increase in the subjective value of goods to consumers is first perceived by them; and other producers must exert a pressure on them to secure a share in the increase of surplus value which accompanies every rise of subjective values.

A question naturally arises as to the power of retail dealers to change the objective value of the commodities they distribute. Do they add a certain per cent. to each commodity they sell, or have they greater power to change the objective value of some commodities than of others? I think the latter question must be answered in the affirmative, and I shall use the following figure to illustrate my position.



Suppose of two commodities, A and B, an equal quantity of each,  $a\ m$ , would be sold by the retail dealers if they were sold

at cost, and that  $an$  measured the excess of satisfaction above cost which the consumer receives from the first increment of each of the two articles. On the subsequent increments consumed, the excess of satisfaction is greater for the commodity A than for B—the line  $nem$  representing the excess of satisfaction obtained from the various succeeding increments of the article A, and the line  $ncm$  the same excess for the article B. In this case the dealer could raise the price of A above its cost to a much greater degree than that of B. If he raised the price of both articles by the equivalent of  $af$ , he could still sell a quantity of A equal to  $ab$ , while of B he could only sell the quantity  $ah$ . His gross profits for B would be increased if he reduced his profit on each increment to the equivalent of  $ad$ , and thus sold the quantity  $ab$ . For A, however, he would lose if he reduced his profit below the equivalent of  $af$ .

The power of the dealer to raise the price of the articles he sells depends upon the direction of the curve between  $n$  and  $m$ . If the satisfaction derived by consumers from increased quantities of an article decreases slowly at first, and then quite rapidly as the point of satiety is neared, its price will be higher than if the satisfaction decreased more rapidly at first and more slowly near the point of satiety. Dealers will find it easier to get their profits from the first than from the second class of articles, and they will fix their prices accordingly.

If we pursue our inquiry a step further we will find that articles like A are usually the necessities or at least the comforts of life, while the luxuries usually resemble B. By luxuries I mean those articles that, except in small quantities, are not parts of the regular consumption of a people. When an article is first introduced the early increments give intense pleasure, but soon the pleasure falls off rapidly and large quantities will not be consumed unless the price is very low. The curve, therefore, resembles that of article B. In the case of a necessity like bread the satisfaction is reduced slowly until the point of satiety is nearly reached, then falling off rapidly. A rise of the price of bread will reduce

its consumption much less than of an article that is more of a luxury.\*

It would not be fair to take a case where bread has an absolute utility. It is the positive utility alone that I wish to measure. If we consume bread regularly in large quantities the satisfaction from the first increments consumed will be less than if it is consumed irregularly and in small quantities, but the subsequent increments in the first case will be much nearer the first increment in satisfaction than in the second case. The curve, therefore, that represents the satisfaction derived from the increments consumed will be different with different commodities, and the dealer will take advantage of this fact when he fixes his prices.

The retail dealer, therefore, is in the same position as other producers. He cannot reduce the consumer's surplus, but he can change the objective value of certain commodities, thus increasing his share of the surplus value at the expense of other producers. If his monopoly were less complete other producers could change to a greater degree the objective value of their commodities, thus getting the part of surplus value now going to the retail dealers. The struggle of producers for higher profits affects objective values and the distribution of surplus value. The consumer's surplus is not affected because it is determined solely by subjective values.

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\* There is an exception to this rule in luxuries which have a high time value. With a highly fashionable article a high price can be charged because the few who want it have an intense desire for it. After a short time a much lower price will yield to the dealer a larger gross profit.

## XVI.

## BURDENLESS TAXATION.

Perhaps there is no part of political economy of which the theory is in such a state of confusion as is that of taxation. All kinds of arguments, regardless of their character, are thrown together, and the most opposing views are fashioned into one system. There is no separation of moral, political, and economic premises, while popular feeling and prejudice too often displace higher considerations. Any consistent theory must be based upon some one class of facts, which must be isolated from other facts in the way most fitted for emphasis. In the first place, it must be settled whether the society is military or industrial; next whether the state is active or passive; and finally, whether the system of taxation shall be based on moral, political or economic considerations.

If the state is military in its character and passive in its policy, it is a consumer of wealth and not a producer. Its expenses must then be met by taxation based upon moral or political ideals. If, however, the state is industrial in its character, and active in its policy, moral and political considerations may be excluded from taxation, and the attention confined to the economic effects of different taxes. The theory that taxation involves sacrifice and hence needs a moral basis, originated at a time when the state was a mere military organization for the defense of society from foreign foes, or to gratify national feelings by aggressive wars. It has a further premise that production is so inefficient that there is no surplus on the products of labor. The theory of the physiocrats corresponds to a state of society where taxation was a sacrifice. As the laborer had no surplus, his taxes deprived him of the results of his labor. Adam Smith destroyed the basis upon which the theory of the physiocrats rested, yet he clung to their theory of taxation as rigidly as

he did to their theory that wages are determined by the price of food. His disciples followed his example because popular feeling sympathized with the current theory of taxation. Ricardo bravely fought public opinion as to the cause of rent and its effect on distribution, but he yielded to it in his theory of taxation.

In an industrial society the object of taxation is to increase industrial prosperity. An industrial society does not ask its citizens to sacrifice anything for it. The State exists for the citizens, and not the citizens for the State. The test of a good tax is that it creates more wealth than it destroys. If the courts, post office, parks, gas and water works, street, river and harbor improvements, and other public works do not increase the prosperity of society they should not be conducted by the State. Like all private productive enterprises they should yield a surplus. This does not, however, mean that every expenditure of the government should yield a surplus. The business of no private house will stand that test. The whole return from industry, however, should be increased more by state activity than it is decreased by taxation.

An analogy can be drawn between taxation in general and the revenues of the post office. When we affix a stamp to a letter, we think of the service of the post office in transporting it. We recognize the economic nature of the service rendered and the net benefit we receive. When, however, we pay a tax for water or for a park, we lose sight of the service and think only of the burden. We do not ask if we receive more than we give, but if we feel the loss of the dollar we pay more than our neighbor does. We wonder if we cannot get some millionaire to pay it, or if there is not some device by which we can deceive some one else into paying it. A workman would not demand that a stamp should be sold to him at a lower price, so that the cost of sending a letter would not take of a relatively larger part of his income than it would from his rich neighbor; nor would he ask a private firm to make the cost of potatoes or cloth no more to him relatively than to a wealthier man. We have passed so far beyond this point

of view, that even the thought of it would not occur to the purchaser. Why then should it have so much force when we pay for public improvements? Is the one question moral and the other economic, or is the difference merely one of association and education? It is undoubtedly of the latter kind; we associate government so firmly with the military rule from which our ancestors suffered, that we instinctively demand a moral and not an economic justification for its acts.

In saying that taxes should be taken from the surplus which public enterprise creates, I do not wish to affirm that those who make use of a given form of public service should pay the cost of it. It is often said that those who use canals, roads, courts, public water works and like advantages should pay for them. Place a fee equal to the cost on the use of each of their public works, and the general public will have no burden, and those who benefit by them must pay for them. This idea is crude, however, and does not correspond to the necessities of modern industrial life. The main benefits of public enterprise are indirect. The post office for example, renders its most important service in the commerce it creates through bringing different sections into closer contact. Canals create as much commerce for railroads as they do for themselves. Good streets and rapid transit enable a city to spread out over a larger area and thus reduce rents. Our cities could easily improve their streets and run the street cars free, out of the saving of rent that would follow these improvements. Good country roads do not enable farmers to ask more for their crops, nor do public markets in cities enable dealers to charge more for country produce. Improved harbors, rivers and other aids to navigation, cut down the expense of transportation, and have their greatest effect in the new regions they open up to commerce.

One end of taxation is to create competition. The Erie canal keeps down railroad rates, and takes from local producers in the East their rent of situation. Notice, for example, the fall in the price of farms through western competition. The well-paved streets of Paris allow cabs to compete with

street cars. If American cities would make their streets as good, they would secure lower rates and better service from local transportation companies. Parks, sewers and schools, improve the health and intelligence of all classes of producers, and thus enable them to produce more cheaply, and to compete more successfully in other markets.

It is a great source of expense and annoyance to assess the cost of each kind of public service upon those who benefit by it. The State would act unjustly if it put the cost upon those who use public improvements. It would also create a burden for them, as they would pay for a service from which other citizens received an equal benefit. On the other hand, it would be more than human if it could determine, in the complicated conditions of modern society, the benefit that each citizen received from each kind of public service. Any attempt in this direction would stir up the animosities of classes and individuals, without securing the desired result.

Taxation should therefore be placed not on particular forms of prosperity, but on general prosperity. The State should not try to hunt up the individual who profits by each of the many improvements it makes, but should make taxation a reduction of the general surplus of society. All taxes come primarily from this surplus. This is the social point of view, as opposed to the individual point of view, which demands that each service have its cost attached to it. On the one hand, we can conceive of the State as standing in direct relation to each individual—perhaps as having a direct contact with him. Then each service has its costs, and the State must satisfy each individual, and prove that each service is greater than the cost. It bargains with each of its customers as any private firm would do. On the other hand, we can conceive of the State as a factor in production, and hence entitled to a share of the undistributed produce of industry. It has helped to promote general prosperity, and can demand a part of the surplus of society along with landlords, employers, capitalists and laborers. Like the capitalist, it advances a part of the funds which make industry possible, and, like the laborer, it performs part of the work.

The whole produce of industry is divided into as many shares as there are agents in production, and each of these shares is then subdivided among the individuals who have through this means helped to extend production. The State gets one of these undivided shares which it must distribute among its agents.

When the State decides to erect public works or to assist education, it takes a part of this surplus and turns it into new channels. Taxation is thus always a distribution of surplus, and never a sacrifice to individuals, unless the growth of taxation is greater than the increase of the surplus. When we decide not to tax we merely decide that other agents in production shall have a larger share of the surplus. Prices are not higher because of taxes. They take a part of the surplus revenue, and thus prevent a rise in the objective values of particular commodities where competition is least effective. Monopolies, whether natural or those of intelligence, raise prices as high as possible without taxation, and hence must bear taxes, for they can have no further effect in raising prices.\*

The consumers are not affected by taxation because, while prosperity continues, the marginal increment of consumption is not reduced, and the consumer's surplus will remain the same. The more rapidly increasing factors in production would lose their share of the surplus without taxation, and hence if it is appropriated by the State they have no additional loss. They would even gain by taxation in so far as the State used its funds to create new forms of competition. The various kinds of monopolies lose not only the share of the surplus taken by the State, but also find their remaining revenues reduced by the increase of general intelligence that results from State activity.

The burden of taxation rests where the benefits of improved production go. It falls upon the most slowly increasing factors in production. The objective value of their products would increase so as to absorb all of the surplus revenue due

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\* See Patten, *Rational Basis of Taxation*, page 13.

to social progress, if the State remained a mere spectator in the conflict of classes for the product of industry. In any natural distribution they have the advantage and secure the prize. When the State does not tax, it decides that the more static elements in society shall get the surplus.

We now have the premises upon which a system of taxation in an industrial society should be based, and from them the following maxims are derived, which should act as a limitation to taxation. The surplus of society is so large that there is no need of using any source of revenue to which a legitimate objection can be made from an economic standpoint. A State rich in revenues can afford to let the burden of proof be against it.

I. Taxation should not be placed on individuals, but on the sources of revenue. The increase of wealth, due to social progress, is the fund from which the State should draw its income. It should not seek to trace the results of each of its productive enterprises, but should recoup itself for all its expenses from the increase of productive power due to its actions. Its share should be taken from the undistributed income of society, and the remainder of the produce of industry should be left to distribute itself in a natural way. Let the individual keep what he gets, and thus avoid any appeal to moral or political principles of distribution.

II. The increase of taxation should be limited to the increase of productive power. It is only possible for a society to continue in a dynamic state so long as the incomes of individuals are increasing. To absorb more of the produce of industry than could be obtained through the increase of productive power, would force society back to more primitive conditions, and thus reduce that prosperity which it is the duty of the State to promote. The State would then lose its purely industrial character, and would be compelled to base its claims for support on moral or political considerations.

III. Taxation should leave no one in a worse condition than it found him. It should not reduce the wages of classes whose standard of life depends upon objective conditions. This does not mean that the articles consumed by these

classes should not be taxed, but if they are taxed, the State must see that the general prosperity is so much increased that these classes get, in higher wages or in better conditions for living, an equivalent for the tax.\* Neither should taxation reduce the marginal increment of consumption. Any reduction in the variety of consumption will react on general prosperity, and thus make the tax a burden upon all producers.

IV. Taxation should favor new forms of enterprise and consumption. New industries need the aid of the State to overcome the initial difficulties to their development. The State can readily turn to these enterprises a larger share of the surplus of society, and thus make the interests of individuals harmonize with the interests of society. The State should also persistently encourage new forms of consumption. The inertia of consumers causes them to keep up their old habits until the pressure of necessity forces them to modify their consumption. Taxation, properly applied, would hasten changes which are inevitable, and keep the consumption of a nation more nearly to the possibilities of improved production. This taxation should not be based on moral grounds, but should have the increase of prosperity for its sole aim.

V. Taxation should have regard for vested interests. The State does not guarantee these interests, nor should it neglect to modify laws which conflict with the good of society. Yet, what it does in this way, should be done consciously, and by other means than taxation. To destroy a right to property which exists in harmony with law is confiscation and not taxation.

VI. Taxation should not be employed to remedy the inequalities found in society. These inequalities demand the attention of legislators, who should endeavor to discover the causes of these evils, and furnish an adequate remedy for them. Taxes must be levied to secure the funds needed to

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\*See Patten, *Another View of the Ethics of Land Tenure*. *International Journal of Ethics*, April, 1891.

They must have the insight needed to see where the margin may be extended, and the ability to adjust capital and labor to the new conditions in which they are to be combined. They need credit to gain the confidence of capitalists and executive ability to organize their workmen in an efficient way.

I do not mean to assert that the margin of production is only extended by production on a large scale. Often it is necessary, and usually some part of the work needed to extend the margin requires production on a very large scale. Many of the parts, however, can be carried out by small producers, but never, under present conditions, except by those who possess pluck, credit, executive ability and other qualities found only in men of intelligence. Those who extend the margin have these qualities now so lacking in many capitalists and laborers, and hence they have a monopoly from which the more static members of society are excluded.

The presence of cheap laborers, and of capital offered at a low rate of interest on safe investments does not indicate that the margin of production is low, and hence that society has nearly reached the limit of its development. The margin may be high in spite of these facts, and could easily be extended by men of intelligence. Low interest and wages merely indicate the relative scarcity of enterprising men. The safe investor does not want marginal investments, and the cheap laborer fails in his endeavor to find them.

There is, however, one way in which securely invested capital and cheap labor can yet extend production, and this outlet for them often creates mistaken impression as to the location of the margin of production. In every industry there is considerable waste, and if interest is low and labor cheap this waste can be reduced. The cheap laborers can economize the materials used in production, and they can give a higher finish to the products of industry. Upon land they can prepare the soil more completely or furnish more fertilizers for it. In these and many other ways, needless to mention, they can economize the waste of production, and increase its products, but they never extend the margin of

production. The margin is only extended by the utilization of new forces. Some new natural agent is brought under the control of man, through which old wants are supplied more easily, or new wants are created that permit a better utilization of the gifts of nature. Intelligence thus finds new opportunities for its exercise, while capital and labor are withdrawn from old industries, and find a better reward in the new.

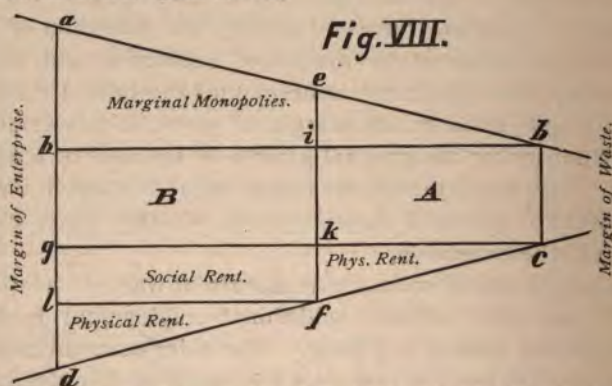
The static conception of the field of employment must therefore be modified to correctly represent the characteristics of this field in a dynamic society. "The new increments of employment are often better than those in use, yet there always remains the possibility of utilizing some increments poorer than any in use. There are, therefore, two margins—a margin of enterprise where men of intelligence may find employment with increased returns, and a margin of waste where labor and capital find employment at decreasing returns.

A lowering of the margin of waste takes place with every increase of the static tendencies in society. The margin of enterprise is neglected, and capital and labor strive for a place at the margin of waste. It thus seems to be the only possible avenue for the extension of production, and all theorists whose ideals are static make it the corner-stone of their system. With the growth of intelligence and the increase of dynamic forces in society, the extension of production takes place at the margin of enterprise, and then it becomes evident that while some capital and labor are always given employment at the margin of waste, it never affords opportunities for the gradual growth of the field of employment. Safe investments and cheap laborers stand in a fixed proportion to the field of employment, but they check rather than aid the extension.

In any advanced society this margin of waste is relatively small, and will not offer additional employment to large quantities of capital and labor. The older economists seem to suppose that production might be indefinitely extended, if interest and wages should fall gradually. The quantities of

labor and capital that remain idle during periods of depression show that this supposition is incorrect. Without new industries some additional laborers can find employment at the margin of waste, but the number is so small that the ranks of the unemployed rapidly increase as soon as the progress of society is checked at the margin of the enterprise. The intelligence needed to see the margin of enterprise, and the combination of industrial qualities needed to utilize it, are essential elements in the prosperity of society, and, without men in whom these qualities are combined, society must soon sink into a static state, and wages would give to laborers but a bare minimum.

These facts of the present industrial world give rise to a new class of monopolies, which may be called marginal monopolies. The few who have the intelligence, pluck and credit, needed to utilize new natural forces or to turn consumption along new channels, have a monopoly as definite as the landlord had in the early stages of progress, and they can demand a monopoly share in the produce in return for their services. Low interest and low wages do not indicate a low margin of production. They merely show that capital and labor are increasing more rapidly than intelligence, and hence that objective values must change so that those who possess the latter can divert the surplus of society from other classes into their possession.



The diagram represents the field of employment of a

dynamic society with its increments so arranged that those at the right require less intelligence on the part of the laborers, and less risk on the part of capitalists than those at the left. The increment at the extreme right,  $b c$ , will then measure the return where capital is safest and labor least intelligent, and the other increments of employment will have their return measured by lines from  $a b$  to  $c d$  parallel to  $b c$ . It will be supposed for sake of simplicity that as the intelligence needed to utilize an increment increases the aid that nature gives to production also increases. Whatever tends to increase intelligence and enterprise tends to extend production farther to the left where the return is greater, while cheap labor, and capital seeking safe investments, tend to push the margin farther to the right where the return is less. Then  $a b$  and  $c d$  will be two lines gradually diverging to the left, where the true margin of production lies, and converging at the right where the margin of waste is situated. Under these conditions the area  $b c g h$  would be the largest amount that cheap labor and safe capital could receive. The area  $a b h$  would go to superior intelligence and enterprise, while  $c d g$  would become rent.

If we suppose that the society is composed of two classes, A and B, the latter having the greater intelligence and enterprise, then the class B will utilize the increments of employment to the left of  $e f$ , and the class A those to the right; if the class B did not exist the field of employment would be limited to the area  $b c f e$ , because the class A lacks the qualities needed to bring into use the field of employment to the left of  $e f$ . When, however, the area  $a e f d$  has been opened up by the class B, competition between the two classes can begin within this area. Much more enterprise and intelligence are needed to open up a field of employment than to utilize it afterwards. The new natural forces can be utilized by class A, but as they have not the intelligence of class B they would, if employed, produce less than class B by the area  $a e i h$ . This area is safe to the more intelligent class, and often enables them to withstand the competition of the lower class which seeks to displace them.

Competition with class A, however, would reduce the return of class B by the area of  $g l f k$ . If they were isolated from class A, the rent they pay would equal the area  $d f l$ , while when in competition with class A their rent would equal the area  $d f k g$ .

The area  $d f l$  would therefore be physical rent, as it arises from differences in the natural agents used by class B. The area  $l f k g$  would be social rent, because it is the result of competition with cheaper and less intelligent laborers. The first kind of rent is due to physical differences, the second to differences in men. Superior workmen have a protection from cheap labor equal to the direct results of their greater intelligence. While they have a protection in this part of their surplus, they have no protection from those who have possession of natural resources. The latter class can now secure a social rent in addition to the physical rent they formerly received, and thus take from the producing classes the benefits of superior natural resources.\*

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\*Patten, *Economic Basis of Protection*. Chap. V.

## XVIII.

DEPENDENT CLASSES.

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From the objective standpoint of the older economists the gifts of nature were emphasized as the great source of the surplus to society. The help which nature gave in agriculture was declared by the physiocrats to be the sole source of a net revenue. Adam Smith overthrew this doctrine by showing the surplus which society derives from the division of labor and the use of capital. The knowledge of these new sources of net revenue, however, did not modify the objective way in which economists looked at the processes of production. Capital was viewed merely as a collection of material objects useful to farther production, and the division of labor as an objective relation between producers. With the discovery of the law of rent and of diminishing returns, the doctrine of the physiocrats obtained, in a modified form, a renewal of life. While it was admitted that a large part of the surplus of society came from the division of labor and the use of capital, it was claimed that the gradual lowering of the margin of cultivation took this surplus from laborers and capitalists, and gave it to the landlords. Under these conditions, to be shut out from land means to be shut out from prosperity, since the return for labor at the margin of cultivation gives but a bare existence.

From a subjective standpoint the emphasis is changed from the gifts of nature and the differences in land, to inherited mental qualities and differences in intelligence. Efficient production results from the possession of certain mental qualities rather than from the possession of superior natural forces, and the laws of distribution depend upon differences in intelligence more than upon differences in land. The causes of poverty likewise assume another form. Viewed objectively, the struggle of society is a struggle for land and

the gifts of nature. The margin alone is free, and ever reduction of it takes from the landless their share of the gift of nature, and the results of social progress. Viewed subjectively, the lower classes are shut out from the margin of enterprise because they lack those mental equalities needed to extend production into new fields. Those opportunities for employment which require the least intelligence are first utilized by society, and in the successive stages of its development the field of employment is gradually extended to those opportunities for employment which require more intelligence and a greater number of mental qualities. These new opportunities are better opportunities, but they require a higher type of a man to utilize them. As the margin of enterprise rises the lowest classes in society are gradually shut out from the margin, and they are restricted to the older and more mechanical industries. In these occupations they must struggle for existence without that relief from competition which those secure to whom the margin of enterprise is free because of the possession of better industrial qualities.

As soon as the intelligence of any class in society becomes less than that needed to utilize the field of employment at the margin of enterprise, this class becomes a dependent class in society, and a hindrance to further progress. Their utility to society is less than what they cost society. Competition will always give to a man a sum equal to what society will lose if he ceases to produce. Any productive agent is sure of getting all that its product is worth to society. If competition does not give to a given class of producers enough to live from, it is because the marginal utility of the articles produced is less to society than the cost of supporting the class in question. Left to the working of natural law, this class must die out, yet in society such classes often exist in large numbers, because of the sympathy that society has for human suffering, and the laws that are enacted to ward off the full effects of competition. They live and increase in numbers, not because of their utility to society, but because a part of the surplus of production is given to them by society. Some disposition must be made by society

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surplus of society; and, on the other, it gives a larger part of the reduced surplus to the landlords and the dependent classes, whose interests are not in harmony with those of society.\*

The agitation for the nationalization of land is based on the fact that a large part of the surplus of society goes to landlords. The services of the landlords in promoting production, it is claimed, are not so valuable to society as the surplus that society gives up to them. An important doctrine has by this agitation been brought to the public attention, but before a correct decision can be reached on the premises, it must be discussed in a broader way. If other classes than the landlords absorb the surplus of society, they, as well as the landlords, must have their claims to this surplus investigated. As long as the intelligence of mechanical laborers is less than that needed to extend the margin of enterprise, they belong to the dependent classes, and must be classed with the other static elements in society that check its progress, and absorb its surplus. While cheap ignorant laborers are really "pauper" labor, and must receive a part of the surplus of society in order to exist, the primary agitation of society should be directed against them because they not only absorb the surplus, but increase the part of surplus which other static classes receive, although they derive more benefit from society than they give to it.

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\*See *Premises of Political Economy*. Chap. V.

## XIX.

## THE IMPUTATION OF UTILITY.

In their theory of value the Austrian economists have emphasized complementary goods. For the production of a given commodity, say a coat, a number of other articles not present goods—cloth, thread, needles, etc., must be used. These articles are complementary goods, whose values are determined by the value of the coat produced by their aid. The question naturally arises under these conditions, What will determine the value of each of these articles which gets its value from the joint product?

The same problem presents itself in a changed form in production. Land, capital, and labor are united in the act of production. The results of the three productive agents are commingled in the joint product. Of this product what part shall we impute to each of the necessary factors? To determine the justness of distribution of wealth in a given society, we must in some way solve this problem.

This problem also arises in the consumption of wealth, and deserves especial attention. The pleasure we get from a given article is not a unit that can be measured by itself. The satisfaction derived from a dinner is not the sum of the pleasures we would get by consuming each of the articles separately. The joint utility may be much greater than separate utilities if the articles are harmonious, or much less if they are not. Also the utility of a house or of a suit of clothes is not the sum of the utilities of their component parts enjoyed separately, but quite another sum depending on the relation of the parts to one another.

The imputation of utility to the various articles which form a complement in consumption is distinct from the theory of imputation in production.\* In the first we seek to

\*See Wieser, *Der Natürliche Werth*.

determine what part of the utility derived from the joint consumption of several articles shall be imputed to each of them. In the second, we seek to find the service rendered by each agent in the joint act of production. The first problem would be of no practical consequence if the utility of the joint consumption of several articles always equaled the sum of the utilities of the several parts consumed separately. It becomes a vital problem, however, when it is recognized that the joint utility is often double the sum of the utilities of the parts consumed separately, and that we often impute utility to articles that cause pain when consumed alone. Suppose that in isolation the first increment of meat would have a utility of 7 units, potatoes 5 units, bread 3 units, coffee 4 units, cake 6 units, while salt would be a cause of pain, and that their joint consumption would create a utility of 40 units. To which of these articles shall we impute the 15 units created by their joint consumption?

Though the solution of this problem belongs to psychology, it presents itself under such peculiar conditions in economics that economists, not content to take the partial solutions offered by other investigators, must investigate it for themselves. To Bentham is due the familiar laws of measuring utilities, upon which Jevons has based his economic theories. It must be remembered, however, that when Bentham devised his theory of utility, he had a system of morals in mind; and in morals the imputation of utility is so simple that it can be neglected. We attach all the consequences of an act, whether evil or good, to the act alone. The conscious act is an indivisible whole, while the results are many. We need, therefore, but to count up the pleasures and pains following from an act, and get their sums and the differences. The net result must be ascribed to the act, and the solution of the question is not complicated by other problems.

While in morals one cause produces many distinct utilities, in economics many distinct causes unite to produce one utility. The laws of Bentham, therefore, must be greatly modified to apply to the imputation of utilities in economics. A

few of these laws I shall give, since they are of especial importance in determining the standard of life.

I. *When an article becomes a part of a complement of goods in the standard of life, we impute to it a utility equal to the difference between the total utilities of the complement with and without the article.* In accordance with this principle we attribute to the new articles in the standard of life a higher utility than to those long in use. Our measure of the utility of new articles is definite, and we are conscious of the nature of the satisfaction that comes from their possession. This principle also causes us to estimate too highly the utility of the separate articles composing a complement. The loss of utility resulting from the absence of each article in turn would in most cases aggregate a much greater sum than the total utility of the complement. Therefore, we must correct our estimate based on this law by some of the other laws influencing the imputation of utility.

II. *When the number of the complements into which an article enters increases, we impute more utility to it.* In our diet wheat bread, potatoes and meat, have much utility, because they can be prepared in many ways, while corn, cabbage and bananas, which we consume in but few forms, have a low utility. Sugar has great utility because of the great variety of ways in which we find it pleasant. Liquor and tobacco to primitive men at least are other examples of the law. A liquor tastes well to a person well or sick, hot or cold, and in a great variety of forms. Most of the luxuries are of the same class. The associations are all pleasant, and their effects are cumulative.

There is another class of goods following the same law which, for lack of a better term, I shall call public utilities. I mean pleasures which are not exclusive, and can be enjoyed by different persons at the same time. The more we see of parks, museums, pleasant streets, fine houses, and places open to or seen by the public, the more urgent does our desire for them become. Good air or pure water to a primitive man excites no feeling, but their associations are now so many and pleasant that the higher types of men are willing to pay well

for them. The growing desire for cleanliness affords another illustration. As we make it an element in a greater number of complements, our love for it increases until it is so strong that we strive to make it an element in every complement.

III. *When the disagreeable associations of an article increase, we change the imputation of utility from it to the means by which the disagreeable association is prevented.*

When the appetites and passions are strong the mere gratification of sensual desires gives keen pleasure, while the conditions under which the desire is gratified are easily overlooked. The gradual reduction of these sensual desires brings the consumption of men more under the influence of psychological conditions, and disagreeable associations attach themselves to many articles reducing their utility, unless they become part of a complement of goods, through which these associations are avoided. We thus impute more of the utility of clothes to their form and color and less to their warmth; more of the utility of food to the manner of its preparation and less to the articles themselves; and more of the utility of a house to its furniture, ornamentation and location, and less to its material. A great multitude of associations come in to modify the primary pleasures of civilized men, while to the articles producing them is imputed the greater part of the whole utility derived from each complement of goods.

IV. *Articles for which there are substitutes are estimated at their separate utilities.* We change our imputation of utility as soon as a substitute is found for one article in a complement of goods. To the other articles of the complement we now give more of the total utility of the complement. Cotton and wool in many respects satisfy the same wants. Merely to be warm and comfortable creates little satisfaction. We can get that in many ways. The gratification derived from our apparel is not imputed to articles keeping us warm, but those that serve other ends. Fat meat has lost in utility because so many other articles serve the same ends. Lean meat, however, has risen in utility because there is no substitute for it, and we impute to

it more of the total utility of the various combinations it enters. Formerly liquor was the only complement to most of the foods in common use. They were not satisfying without it. It is now losing its utility because sugar is in many cases a substitute for it. Many sweet articles serve this end, and hence we are beginning to impute less utility to liquor and more to other articles of food for which there are no substitutes. It is also well known that tobacco and sugar are not harmonious, and cheap sugar, therefore, is likely to lower the utility of tobacco as well as of liquor.\*

V. *When the source of utility is uncertain we impute it to the articles with the greatest utility.* It often happens that the sum of utility derived from a complement increases without new articles coming in. Some substitute for an article may also be found or some disagreeable association may attach itself to it thus lowering utility we attribute to it. In these cases and in others of their class we impute the utility not otherwise determined to the articles having the greatest utility. If a man recovers suddenly from an illness he attributes his recovery to some medicine, article of diet, or form of exercise of which he is fond. An unexpected pleasure will always be attributed to sources with which our greatest pleasures are associated. If a dinner proves especially satisfactory we attribute our feelings to some favorite diet or beverage. In this way the strong pleasures tend to grow at the expense of the weak.

VI. *Changes in the imputation of utility are retarded by the static classes whose standard is not rising.* If there were no lower classes we would impute a less utility to the necessities of life and a higher utility to the comforts and luxuries that enter into the various complements of goods. The consumption of the lower classes is largely of food and products that create a strong demand for land. The price of food must therefore remain high to check the rapid increase of their numbers. If the higher classes do not offer the same price for food they are displaced by competition. The lower

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\*See Patten, *Consumption of Wealth*, page 20.

classes fix the limit below which the utility imputed to food by the higher classes cannot go. Thus they are prevented from imputing high enough utility to new articles to cause them to become a part of the standard. The utility we impute to an article must at least equal its cost. Therefore what prevents us from attaching a higher utility to new articles tends to keep them out of the standard.

The following table will help to make my meaning clear

	A	B
House . . . . .	.7	9
Meat . . . . .	.5	4
Bread . . . . .	.3	2
Clothing . . . . .	.3	4
Books . . . . .	.0	3
Fruit . . . . .	.0	1
Music . . . . .	.0	1

Let A and B represent two competing classes of which B is the more intelligent. The income of the members of class B is one-third greater than that of class A, and both classes are supposed to use their entire income to purchase the articles in the list. The figures indicate the relative utility that each class would impute to the article if its members were a society by themselves. Music and fruit are the new articles having just entered the standard of class B, and will be dropped out if its consumption must be curtailed. While their income is represented by 24 units, and they impute the utility to each article as given in the table, these new forms of consumption can remain a part of the standard. When, however, they are placed in competition with class A they must impute more utility to meat and bread, or the latter class will secure all the food. Therefore class B must leave music and fruit out of their standard and remain static until some new social change increases their income.

VII. *The static classes in society tend to impute any increase of utility to their strong pleasures, while the progressive classes impute it to the new articles in their standard of life.* This law is an inference from the preceding ones. Where no new elements enter the complements of goods social changes increasing utilities cause the static class to attribute this new utility to the articles with the highest util-

ity. The progressive classes, however, create new complements or enlarge those now in use, and thus tend to attribute less utility to the old articles and more to the new.

VIII. *We impute to each economic good a subjective cost equal to its objective value.* No one estimates his costs as less than the objective value of the goods he produces. He may see that his neighbors or the members of another class are wrong in the cost they impute to what they produce, yet he finds a ready excuse for the same act in his own case. Pain can be attributed to any set of circumstances or to a series of causes in turn. A person can also impute to himself a pain his ancestors bore. He associates them so closely with himself that he justifies his income through their suffering as though it was his own. In this way there is no end to the amount of cost that individuals and classes can pile up to magnify their own evils or to offset any claim society can make against them. Carey's method of disproving the existence of rent is a good example. He takes first the cost of opening up a locality, adding to it the cost of improving the land, then the cost of the roads and bridges, then of schoolhouses and churches, etc., until he has a sum that exceeds the possible value of the land. In the same way all kinds of bodily pains may be attributed to labor, though they are felt long after the labor is performed. No matter how large the income is it is always possible to aggregate a sum of pains equal to it and to associate them with it. Objective values are so definite and the cause of pain so indefinite that producers go from one commodity to another and impute to each of them enough pain to make costs and value identical, unconscious of the fact that the same pain may be included in the costs of many different articles.

When the classical economists assumed that the cost of production always equalled the value of commodities, they acted upon a psychological principle and not upon an induction from industrial facts. They needed no proof for a law according to which every one acted. It is only through the growth of social feelings that we see the error of the primitive method of imputing costs and hence become willing to use a more objective standard in measuring them.

## XX.

THE STANDARD OF LIFE.

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In discussions relating to the standard of life two opposing views are current. It may be held that high wages come before a high standard, or that the high standard is the cause of high wages. An increase of manufacturing activity raises wages, and if the period of activity endures for some time the workmen become so accustomed to the new standard that they retain it permanently. From the first point of view, a discussion of the standard of life is supplementary to the theory of production and distribution. If more is produced, or the product is more equally distributed, the standard rises, but it cannot rise if neither of these causes acts in its favor. The causes that fix the standard are thus objective to the individuals or classes interested, and they cannot influence it except by increasing production or by some organization that will alter the distribution of wealth. The wage fund theory, for example, gives to laborers no influence in fixing their wages except in the slight control they have over their numbers. To discuss the standard of life in this or any similar way is simply to go over again the theories of production and distribution, and make a few inductive applications to the condition of workmen in particular nations or at a given time.

If we recognize, however, that a rise in the standard of life precedes and is the cause of the rise in wages which follows, the basis upon which the standard of life rests must be changed from the phenomena of production to those of consumption. It now becomes possible to proceed deductively from the laws of consumption making the laws regulating the standard a part of the theory of consumption. It will be necessary, however, first to make some preliminary distinctions as to the different classes into which society is

divided. To see how the laws of consumption regulate the standard of life the classes of society whose standard is determined directly by their consumption must be isolated from other classes whose standards are determined partly or wholly by objective conditions. It is not possible to affirm that a high standard comes before high wages unless producers have some power to alter the conditions of production. They must have the intelligence and enterprise needed to extend production into new fields, though they may lack the motive to do it until the increased urgency of new wants forces them to work longer or more intelligently.

From this standpoint society is divided into three classes. First, the enterprising or higher classes, whose standard is primary because it depends directly upon their consumption; second, the intelligent laborers, whose standard is secondary because it depends partly upon their consumption and partly upon their relations to the enterprising class above them; and third, the mechanical laborers, whose standard depends wholly upon conditions objective to them. We shall confine our attention at first to the higher classes, who can utilize new opportunities for labor when the intensity of their wants increase, and hence are able by themselves to maintain a higher standard of life. The causes that determine the intensity of wants have already been discussed as a part of the theory of consumption, though a few of them need additional emphasis to bring out more clearly their connection with the standard of life.

The first condition of a high standard is the reduction of primitive appetites and passions. So long as a few primitive wants are intense the standard will be limited to the few articles which gratify these appetites. The relative urgency of other wants can only increase when the primitive wants sink to a level with the new desires of civilized life.

A second condition lies in the economic order of consumption. When commodities have a cost those articles are placed first which have the highest excess of utility above cost. Any change in the cost of producing articles changes also the order in which they are consumed. Many articles must

have about the same excess of utility before a high standard of life becomes a possibility. The cheapening of articles that already have a relatively low cost would tend to lower the standard of life. It is raised only by reducing the cost of relatively dear articles, so as to increase the number of articles having the same relation of cost to utility.

A still more important condition relates to the increase in the number of complementary goods. The primitive man has a strong appetite and enjoys each of his crude pleasures regardless of the conditions under which he consumes them. Each pleasure is independent of the others, the whole consumption of each individual being made up of isolated parts which appeal to some one of his feelings or senses. As soon, however, as the primitive appetites and passions are weakened, the pleasure derived from any article depends more or less completely upon the mental associations which accompany its consumption. A patch on the coat of a primitive man does not decrease the pleasure he derives from it. He only associates warmth with coats, and the patch does not affect this quality. To the more civilized man, the patch will destroy all the pleasure he derives from the coat, even making it a source of pain. Articles of diet that are sources of great pleasure to primitive men are often sources of disgust to civilized men if they are not served in connection with new articles that have pleasant associations. A hat or a pair of gloves which by themselves would be to their wearers a source of pleasure become a cause of pain when they do not harmonize with the other articles worn.

There is little need of further illustrating this familiar principle, but an important application of it may easily be overlooked. As the associations which we have with a given group of articles increase, it becomes more important to avoid the disagreeable associations and to receive the full effect of those that are agreeable. The articles that prevent the first class of associations and secure the second, acquire a utility which they could not have by themselves. We transfer the utility from the necessities of life which, to the primitive man, are by themselves sources of great pleasure, to the ar-

ticles that must accompany them to avoid bad associations or to acquire good ones. If the utility of the whole wearing apparel on a given occasion be 100 units, and a pair of gloves of a particular shade were needed by a fashionable person, he might regard the utility of the gloves as 50 units or equal to the utility of all the remaining articles without the gloves. At a Thanksgiving dinner we give to cranberries a part of the utility which a primitive man would give to the turkey, to the sauce what he would give to the pudding, and to the table decorations what he would give to the food.

As an effect of these associations a large number of articles acquire a utility which they could not have to primitive men. Luxuries are articles that the civilized man must have to keep disagreeable associations from destroying the utility of necessities. Hence as civilization progresses necessities must relatively lose in utility so that the luxuries may increase in utility. If we wish a pleasant dinner or an attractive costume, we must first find out the cost of the luxuries, and the rest of the total utility can be imputed to the necessities. The last article that enters a complement of goods has often the greater part of the utility of the group centered in it. The new article is a necessity to the men whose complement of goods is increased, but it is a luxury to the man with a smaller complement of goods.

Therefore, articles, enter the standard of life with a high value. They become a part of the standard not because the income of consumers is increased so that they can consume articles that have to them a lower utility, but because the new articles have transferred to themselves a part of the utility which formerly was imputed to the articles already a part of the standard. If the expense of the new standard is greater than the old the consumer will not throw out the new articles, but will readjust his whole consumption or strive to increase his productive power by extending production at the margin of enterprise. The new articles are fixed points of high utility about which his whole consumption is grouped. Because of them he becomes dynamic in his consumption and progressive in his production.

The three main conditions for increasing the standard of life have now been made plain.\* First, the strength of the primitive appetite and passions are reduced; then the economic order of consumption is so changed that more articles have the same excess of utility; and finally the growth of the number of groups of complementary goods compels men to impute a large part of the utility of the whole group to the last articles that enter it. When the articles composing the standard of life do not have the same relation of cost to utility there is a tendency to change the utility imputed to the various articles which are parts of complements so as to make the excess of utility the same.

In the following tables the differences in the conditions determining a high and a low standard of life are manifest.

	Liquor . . . .	Potatoes . .	Tobacco . . .	Wheat . . . .	Beef . . . .	Coffee . . . .	Sugar . . . .	Rice . . . .	Mutton . . .	Fruit . . . .	Fish . . . .	Decorations .
I.	7 6 5 4 3 2 1	6 5 4 3 2 1	5 4 3 2 1	4 3 2 1	3 2 1	2 1	1					
II.	4 3 2	3 2	3 2	3 2	3 2	3 2	5 4 3 2	4 3 2	4 3 2	5 4 3 2	4 3 2	5 4 3 2

Table I. shows the excess of utility derived from the consumption of articles which form a low standard of life, and table II. shows the same for a high standard. In the first case a large number of articles have no excess of utility, and hence do not form a part of the standard. In the second case the various articles have so nearly the same excess of utility that the one will not be preferred to the other. The marginal increment of consumption rises to two units from

\*See also Section VI. of the *Consumption of Wealth*.

Lack of time to produce more. The tendency, therefore, is to increase the efficiency of production, or to make economies in consumption, so as to retain all the articles. If hard times come and the income is reduced, the increments of consumption which have an excess of two units will not be consumed; but no article will be dropped from the standard, nor can there be any change in it until the conditions of consumption are modified.

In this argument making the standard of life a part of the theory of consumption, and not of production, I have considered only those classes whose standard is primary. They have the intelligence needed to extend production at the margin of enterprise when the old conditions will not allow them to satisfy their new standard. The higher standard in their case precedes the increase of income. They work more efficiently because of the increase in the intensity of their wants.

In the skilled workman whose standard is secondary, the primitive appetites and passions are stronger, the number of groups of complementary goods is smaller, and pleasure depends more upon sensation and less upon association. Their standard, therefore, is determined more fully by the economic order of their consumption than is that of the higher classes. Still the subjective elements enter quite largely into the causes which fix their standard of life, enabling them to resist many tendencies that would otherwise lower it. The primary standard of the higher classes also exerts an important influence in this direction. It keeps a higher ideal before the workmen and enables them to participate in many of the enjoyments of a higher civilization, which otherwise would be out of their reach. They have some power to extend production by moving from one part of the field of employment to another, and to some degree can modify their consumption so as to utilize their resources more fully. In these ways they can resist any fall in wages, but are not likely to raise their standard, thus securing higher wages until pressure is brought to bear upon them by a rise in the standard of the classes above them.

The merely mechanical laborers can hardly be said to have a standard, as they are really dependent upon society, and only exist because society gives them a part of its surplus. Of this class it is true that an increase of wages must precede a rise of their standard. Yet changes in the economic order of consumption are gradually creating conditions that will give them a greater variety of consumption, thus erecting a subjective barrier to a fall in wages. While these causes are slowly at work, they are protected by objective conditions so long as society remains dynamic. The increase of the productive power of the higher classes, the growth of capital and commerce, and all the other elements promoting general prosperity, create employment for them and, except under peculiar conditions and during times of great industrial depression, enable them to resist a fall in wages. Yet these objective conditions, however favorable, cannot be relied upon to raise their standard of life. This can come only through causes affecting their consumption; and there is little hope of progress in this direction until the subjective conditions that maintain the standard of the higher classes exert more influence upon the lowest classes of society.

## XXI.

THE THEORY OF PRODUCTION.

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It may surprise the reader to be told that the theory of production is one of the most neglected portions of political economy, in view of the fact that the word is used so frequently and almost every economic treatise calls its first part by this title. Yet but few of the subjects treated under this head belong to the theory of production, and if they do they are still viewed primarily from the standpoint of distribution. Even in Adam Smith the latter conception predominated, while the revolution in economic theory caused by Ricardo took from production what little emphasis Adam Smith gave it. Ricardo did not write upon production at all, and if his followers had been as frank, and had kept in the theory of distribution all of the theories that really belong to it, there would have been much less confusion of ideas.

In these theories the section on the division of labor is all that really belongs to production. The remaining sections deal either with the hindrances to improved production or clear the ground for a justification of interest and rent. Of the first part the law of diminishing returns is the cornerstone. Yet this law does not explain how production is extended; it merely reveals the necessity of an unequal distribution. The theory of capital, also, does not show how capital acts in production. It simply shows that capital is an essential element in production, and hence its owner can secure for himself a share in distribution. And to justify him in taking this share capital is made a species of labor, or an analogy is shown between the sacrifice of the capitalist and the efforts of the laborer.

It is one thing to show that land, labor and capital are

sources of revenue and essentials of production, and quite another to show how they aid in extending production. Sources of revenue are merely the essentials of production which are limited in quantity. Water is as much an essential of production as land or capital, and when limited in quantity it becomes a source of revenue. Yet in such a society to show how the lack of water hinders its progress and reduces the incomes of workmen would not help one to understand the processes of production nor indicate how they might be improved.

Production—it must be kept in mind—is the increase of utilities. Many utilities are the immediate product of natural forces, but if the sum is to be increased man must in some way direct the action of natural forces. Efficient production secures the co-operation of more natural forces, and prevents the waste of energy that would result if there was no intelligent direction. The theory of production must show where this greater co-operation and economy of natural forces is possible, and what qualities in men will create in them a desire to make a better use of nature.

The concept which men have of production must vary with their civilization. To a primitive man, in his isolated state, labor and natural objects are the essentials of production. The articles of which he makes use are not thought of as the results of natural processes. He finds about him an aggregate of objects whose utility can be increased by labor, and hence he regards labor and not nature as the producing agent.

At a later period when government becomes firmly established, and population increases so far as to cause a struggle for existence, the concept of production changes. Three factors in production are now recognized—land, labor and capital. This change is not due to the introduction of a new factor (capital) but to a new standpoint from which production is viewed. Land is not an agent in production, but as the possession of all natural forces are given by society to the owner of land, the possession of land carries with it the control of all natural forces. Nor can capital itself be re-

garded as a productive agent. It is made up solely of inert materials which have no utility except as they are changed into some other form through the agency of man or nature. Yet the possession of these objects carries with it the right to share in the produce of industry, and hence we assume they have a productive power which belongs only to natural forces or to the men who direct them.

As the struggle for existence causes men to think of land and forget the natural forces which the owner of land controls, so it also leads them to think of capital and forget the man back of it who makes it efficient. The material is emphasized while the mental qualities are overlooked. There is some justification for this confusion in the early stages of industrial progress, when the capitalist possesses all the mental qualities needed for improving production. The capitalist and his capital are intimately associated in the public mind. He is the active and controlling factor in production, and it matters little whether the income he derives from his industry be said to come from his labor or capital.

In a static economy the theory of production may be neglected because an increase of production is not contemplated. It is natural, therefore, that distribution should become prominent, and that land and capital should get the emphasis which should be given to the natural conditions and mental qualities aiding production. But in a dynamic economy this neglect is impossible. If production is to be kept progressive, the causes of productive power must be investigated. The aggregates which are included under land, labor, and capital must be broken up, and the elements readjusted into a new system. We must overlook the channels through which society receives its income, and seek its sources.

This investigation involves also a change from an objective to a subjective standpoint. We are apt to associate labor as an agent in production with the laborer, and decide that the former is the aggregate contribution of the latter. Viewed objectively, the laborer is wholly engaged in putting things in motion, and hence his muscular power receives sole attention. The mental qualities that direct pro-

duction we associate with the capitalist, and an investigation of them is isolated from our conception of the laborer. But from a purely subjective standpoint, we have nothing to do with the laborers and capitalists as distinct classes. Certain mental qualities aid in the production of wealth, and we must isolate the qualities to find how each of them assists production, and not the men who possess them. With the progress of society new qualities become active and production is forced into new channels.

As the psychical premises of a race improve, intelligence becomes a more conscious agent in production, muscular activity losing its relative importance. Putting things in motion still continues a necessity, but the increase of production depends not so much on the quantity as upon the direction of the motion. Shall iron be put in motion towards a forest or towards a coal mine? Shall cotton and wool be put in motion towards a spinning wheel or towards a modern factory? Shall the seed be put in motion in April or July? To decide these questions the subjective and not the objective conditions of the producers must be known.

After each psychical progress in a race the line of least resistance in production changes, the mechanism of its production being modified to enable it to follow its new inclinations. All the psychical elements of human nature lie back of the capital and the muscles we see, and there are as many agents in production as there are distinct mental qualities exercised by producers.

From this standpoint the theory of production must consider both the active mental qualities of producers and the conditions of nature which tend to develop higher intelligence in men. If the laws of nature were such that men of a lower type could avail themselves as fully of natural forces as their superiors the latter would have no advantage in the struggle and there would be no tendency for the psychical motives to change in a way that would encourage better processes in production. Improvements in production always indicate a change in race psychology, and that a higher type of man has been utilizing some natural force out of the

reach of the lower types. With some new faculty active the relation of a society to its environment is changed, and production is modified in a way that demands less labor to secure the desired results. There are many natural conditions aiding the higher races, but the following are so prominent that they require mention.

1. *THE INTERMITTENT ACTION OF NATURE.* The changes of the seasons create opportunities to utilize natural forces of which immediate use must be made, or the opportunity is lost. The seed must be put in the ground in the spring, and the grain harvested in an equally short period in summer. If psychical motives do not prompt individuals to hold in check other desires while they utilize these periods, they lose the most available means of increasing production. The farmer who associates sunshine in August with his hay crop has different psychical premises and creates a different mechanism of production from his neighbor who associates the same sunshine with a visit to a circus, or an opportunity to fish or hunt.

2. *LATENT FORCES.* The higher races have a potent advantage in the latent forces of nature. Of these coal is a typical example; but the increase of intelligence is bringing other cases into prominence, either where nature has stored up forces that man can use, or where man in imitation of nature learns how to store up forces for his future use.

3. *THE LOCALIZATION OF NATURAL FORCES.* The soil, heat and mineral resources are not equally distributed. The climate, rainfall and other conditions upon which agriculture depends are also quite different. Production, therefore, must be localized to take advantage of these forces. Products must often be taken to several places so that the final result can be secured with the least effort. Intelligence finds one of the best fields for its action in the utilization of local advantages, and the growth of the motives favoring commerce, makes an epoch in human progress.

4. *THE PERSISTENCE OF FORMS.* If a nation has only those kinds of food that cannot be stored, but little progress can be made in production. Fruits or meat without ice or salt do

not furnish the basis for regular industry. Rice or corn are much less enduring than wheat, and without the latter article much of modern commerce would be impossible. All forms of fixed capital depend, also, on the continuation of matter in the form which man gives to it. Where earthquake or cyclones are common, a narrow limit is put upon great enterprises. The activity of insects, the action of frost, the rusting of metals and the decay of vegetable products, retard the development of industry, and create a field for the use of intelligence in counteracting these changes.

5. *THE EFFICIENCY OF SERIAL LABOR.* The slow action of natural forces aided by the permanence of material forms, affords man an opportunity to modify the action of natural forces, making them efficient for production. The forces of nature are abundant, but are wasted unless made to act in turn on the products of industry. A commodity is the result of the consecutive action of a series of forces. Every extension of the time of production allows new forces to act or makes those in use more efficient. Capital is the result of serial production. It is not a productive force but merely partially formed goods in a somewhat permanent form capable of being changed into consumable commodities through the action of new forces.

In addition to these objective conditions of production there are also certain subjective conditions having a social origin. Society is not an objective reality, but it creates a subjective place for itself in the modifications of the race psychology produced by it. In the development of race psychology new motives enter which modify the actions of individuals, changing the character of their industrial activity. Every adjustment of society to nature creates in its members a new feeling which causes them to adhere to the new social arrangement. Ideals are formed and feelings are generated which have a binding force upon all individuals of a given race. Certain of these ideals and their corresponding feelings have become so marked that they are prominent forces in production.

1. *FUTURE WELFARE.* The desire to have the future pro-

vided for is an active agent in production. As soon as it becomes a clearly defined ideal the individual places a high estimate on future goods and is willing to modify his production so as to create more goods for the future. This change allows the accumulation of capital and the utilization of many natural forces that cannot aid present production.

2. ASSOCIATION. The primitive man lives in isolation and hates his neighbor. He lacks the instincts that lead men to live in intimate relations and assist each other in production. Under these conditions the principle of the division of labor cannot be utilized and industry cannot make much use of local advantages. The development of race psychology displaces these feelings of the primitive man, and puts in their place new feelings that lead him to associate with other men, to co-operate with them in production.

3. CREDIT. The development of the moral faculties creates in man a feeling of honor in keeping his engagements. Commerce and trade can grow only where a strong sentiment favors honesty and integrity. The State may compel some men who lack these feelings to fulfill their engagements, but the public sentiment back of the law must be active, or the law will not be enforced.

4. THE STATE. In no respect is the progress of race psychology more apparent than in the ideal it creates of State activity. The welfare of society becomes an ideal to be set up against the welfare of individuals, and feelings are generated which check the selfish actions of individuals. New wants are also created that can be gratified only by concerted action of society. These wants are less exclusive than those dominant in most individuals, and when they become more urgent than those of a selfish nature, production is modified, and greater use can be made of natural forces.

5. EDUCATION. The individuals in a society undergo a constant change. The children of to-day become the workmen of to-morrow. The individuals of each age determine to a large degree the intelligence of their successors, and unless the love of their children is strong will not

limit their own consumption to increase the welfare of their children. The development of race psychology makes education one of the social ideals and strengthens the feelings that encourage it. It makes the desire for good schools so active that many of the lower wants must give it precedence.

The conditions of production are then partly subjective and partly objective. They are the active forces which direct the energies of producers and determine where labor shall be applied. They put limits to the field of employment, and create the mechanism of society through which the wants of its members are supplied. The individuals of any society are placed within this field of employment under the conditions which natural laws and their race psychology determine, and must seek the line of least resistance open to them. The conditions of production being created for them they must set those forces in motion which assist in the production of commodities. Two avenues are available by which these results are secured—labor and intelligence: the one, through muscular exertion, secures the readjustments of matter needed to increase the utility of objects already produced by nature: the other secures the co-operation of nature in producing new commodities and in rendering them more useful. The active energies of individuals can be exercised only along these channels, and when it is known to what degree the individual of a given society will make use of each of them the whole mechanism of production is fixed, and its efficiency can be determined.

The number of agents in production, therefore, are many more than the factors in distribution, and it obscures the processes of production to submit it to the same division which is needed in distribution. Production deals with productive forces, while distribution treats merely of the sources of revenue to individuals. We associate the revenue derived from natural forces with land and call its revenue rent. Capital is the objective form in which the influence of society on production shows itself, and its possession determines who shall secure the benefits of social progress in the form of interest. The labor of an individual is that exertion which

has a subjective cost, and the revenue derived from it is wages. Intelligence secures results through the co-operation of nature without subjective cost to the individual, and the revenue from this source becomes profits.

The classical economists supposed that all the intelligence of society was evenly distributed among the capitalists, and consequently regarded profits and interest as coming from a single source. The progress of society, however, has clearly shown that intelligence and the saving instinct are not always combined in one person, and that the laws which distribute the revenues derived from these sources are not the same. Intelligence has become a more prominent factor in recent production and its distribution among individuals more unequal. These facts justify economists in making profits a fourth source of revenue, and in placing it on the same footing as rent, interest and wages.

## XXII.

THE LAW OF DIMINISHING RETURNS.

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It is not possible to close the present discussion without saying a word about the law of diminishing returns. The classical economists emphasize it so much that if it is not made the basis of economic doctrine the laws that are substituted for it must be contrasted with it. Economists have resorted to the law of diminishing returns from the logic of their situation, and not from direct evidence as to its validity. The discoverers of the law were not farmers or agricultural chemists—for neither of these classes recognize such a law, but city people ignorant of agriculture and of the conditions upon which its progress depends. Certain phenomena of city life attracted their attention and demanded an explanation. Why does the price of food rise with the growth of population? Why do interest and wages fall under like conditions? What is the cause of poverty? And, finally, why does population spread over the whole globe instead of aggregating in a few places? When such questions as these were asked of city people, it was hard for them to find an answer based upon the facts of production with which they were familiar. The efficiency of their production had regularly increased, and there seemed no reason arguing from their industrial conditions why interest and wages should not be high. It was natural, therefore, that they should look to the country for an explanation, and seek in agriculture the law they could not find under their own conditions.

An easy and far-reaching explanation became available in the law of diminishing returns. One law of agriculture could be made to settle all the difficult economic problems of city life. The supposed niggardliness of nature could be made responsible for the distribution of wealth,

and for all the poverty and suffering of city people. The necessities of their theory of value assisted in increasing their need of the law of diminishing returns. If value depends upon the cost of production, no article could rise permanently in value unless its cost was increased. But city prices were rising in spite of the increase of productive power. To accept any other explanation of high prices would demand a new theory of value as well as a new theory of agriculture, and thus the law of diminishing returns acquired a place from which it could not be displaced without a new theory of political economy.

It is not probable that the progress of economic science will bring to light any one law which will displace the law of diminishing returns, but it may furnish a series of laws that will gradually reduce the necessity of resorting to it. And finally, the various laws may fit so well together that the logical need of this particular law may cease. In this case the law would have to stand on its own merits. It would become a possible law of agriculture, but it would not lie at the basis of economic doctrine. Let us see what particular laws will account for some of the facts which are explained by the law of diminishing returns.

1. **THE SPREAD OF POPULATION.** Nature gives a supply of food and a large number of goods without cost. In natural conditions fish and game are abundant, wood for fuel and raw material of all kinds are free, while the pleasures of a life in the open air are unlimited. Primitive races prefer to rely on these free goods rather than to work regularly to secure the comforts of a civilized life, and consequently spread themselves over the earth in search of free goods. Wherever the wants of men are limited, and acute suffering in times of need does not cause men to provide for the future, this tendency to spread is unchecked, and an irregular supply of luxuries is secured at the expense of a larger supply of comforts.

2. **THE HIGH PRICE OF FOOD.** It has been said that the high price of food of itself proved the law of diminishing returns. This assertion overlooks the fundamental law of

objective values. There can be no general rise or fall in values. If some articles fall in value, some others must rise. If the efficiency of labor in every industry were decreasing, some article might fall in value if the rate of decreasing efficiency were less in some industries than in others. Likewise a general increase in the efficiency of labor produces a rise in the value of particular commodities when the increase of efficiency is less in some industries than in others. The rise in the price of food, therefore, merely shows that the increased efficiency of agricultural labor is less than that of many other industries. The least productive land is to-day more productive than similar land in the last century, but it is not sufficiently good to make the increase in the efficiency of agricultural labor equal to that of city labor.

3. THE REDUCTION IN THE RATE OF INTEREST. The rate of interest does not depend upon the margin of cultivation, but on the difference in the value of present and future goods. The progress of society increases the desire for future welfare, and reduces the premium which individuals are willing to pay for present goods. If the margin of cultivation has been lowered with the fall in the rate of interest, the two facts are due to independent causes.

4. THE CAUSE OF LOW WAGES. A low rate of wages and irregular employment do not indicate that the best natural resources are exhausted. These facts show that certain classes are shut out from the margin of enterprise, because they lack the intelligence needed to utilize new opportunities of labor. They thus become dependent upon the higher classes for employment, or must seek work at the margin of waste. Such positions are limited in number and incapable of multiplication, and hence the increase of population prevents the rise of wages. Wages cannot rise with the margin of enterprise unless the intelligence of workmen increases with every rise in the margin.

The cause of poverty and other phenomena which make the law of diminishing returns plausible does not lie in the objective environment, but in the subjective conditions of producers. Ignorance and a low standard of life are doing what,

Under other conditions, an increased use of inferior lands might do. The cause lies not in the niggardliness of nature but in race psychology. Every development in the psychical premises of the race opens up new fields of employment, unseen by their ancestors; it modifies their wants so as to reduce the cost of production, and changes poor lands into good lands through the increase in the variety of food. There is no room for the action of a law of diminishing returns so long as new avenues are open for the psychical development of the race and the growth of social ideas and feelings.

The habitual antagonism to which Mill refers is not between the law of land and the law of civilization, but between two tendencies in civilization—the static and the dynamic. When the first tendency predominates production is driven to the margin of waste where the return is less, while the second tendency extends production at the margin of enterprise where the return is greater. The relative strength of these two tendencies determines the relative value of food and other commodities. The causes that raise the price of food however are as complicated and as much of a social nature as are those that reduce the price of manufactured goods.\*

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\*Patten, *Premises of Political Economy*, Chap. VI.

## XXIII.

THE DISPOSITION OF THE SURPLUS.

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The income of a society must be divided into two parts—the surplus and a fund to repay the costs of those who undergo subjective pain in production. Of the disposition of the latter fund there can be no question. Each individual must secure enough of the produce of industry to place him in as favorable a position after as he was before production. The surplus, however, is in the possession of society, and must be distributed by the institutions it creates. The laws and customs of society determine to what degree the surplus shall be employed collectively, and any other distribution of it also demands the consent of society.

To understand the influence in progressive societies which have controlled the disposition of the surplus, we must return to the primary distinction between the static and dynamic elements in society. The collective use of goods has favored the static classes and retarded progress. Mankind has had to choose between enjoying the surplus collectively, and using it to keep society progressive. Civilized nations have given up the surplus to get prosperity; the unequal distribution in a progressive society has been preferred to the equal shares of a static society.

The principle that the static elements of society tend to get the surplus, has been dimly seen from the dawn of civilization, but has been more clearly recognized by the modern world. The laws and institutions of each nation and age are based upon some theory as to the cause of progress, and they dispose of the surplus in the hope of increasing prosperity. It must be taken from the static classes "who reap where they do not sow," and be given to those whose activity and intelligence promote industry. The contrast be-

tween the static and dynamic classes is ever present in society, and progressive nations must frequently resort to new measures to repress the one and encourage the other. In this way several theories of progress deserving attention have been invented.

In primitive societies land is the chief source of wealth, and its improvement is the only avenue to prosperity. The interest of the individual in a particular farm is so much greater than that of the community that society is benefited by placing it in his hands. Cheap food is more essential to progress than the surplus of land, and society gives up the latter to secure the former. The static elements in such societies are usually the ruling classes, and if the surplus is retained by society they secure it. The struggle for the surplus, therefore, lies between the rulers and land owners, and progress requires that the latter be favored.

This disposition of the surplus does not give a permanent solution of the problem. After a time the land is improved and population increases so as to create a high price of food. The owners become a separate class in society, and they are more interested in the revenue derived from the land than in its further improvement. They now become the static element in society, and cheap food and prosperity must be sought by other means.

A new theory of progress is now developed. Commerce and manufactures must be encouraged and fostered. The towns begin to grow, and their industry must be promoted at the expense of the country. Increased prosperity can come only through new industries, and society, therefore, encourages the growth of intelligence and enterprise by a system of protection. Taxes are laid on imported articles, or bounties are given to domestic producers in the hope of changing the location of old industries and of developing the new. The burden of these taxes falls upon rent, and thus the surplus of society is taken from landlords and given in the form of profits to the promoters of industry.

As a scheme for introducing industries into new or backward countries protection had many successes, but did not

prove a lasting means of keeping the surplus of society in the hands of the progressive classes. After its initial stages the absence of foreign competition often became a means of keeping some industry static. The protection was used to secure high prices in local markets under conditions where improvements were impossible. The static influence of this kind of protection was increased by the introduction of production on a large scale until it finally became so strong that many progressive nations abandoned it, or at least, gave it a more subordinate place in their schemes for promoting industry.

A third theory of progress was introduced by the free trade movement at the close of the protection era. It was now claimed that prosperity would continue if the consumers were favored. If competition remains free, prices would fall to the cost of producing goods and there would be no monopolies. Where values are determined by costs, all the benefits of improvements would come to consumers and their prosperity would mean the continued progress of society.

This theory, like those that preceded it, brought with it many advantages to society, but, also, like them it failed to furnish a satisfactory basis of permanent prosperity. It overlooks the fact that there can be no general fall in objective values. Competition does not result in low prices, but in a redistribution of profits. Where differences in intelligence divide a nation into non-competing groups of producers, the value of certain classes of goods may fall in price. But this cheapness does not aid the consumer, because it is accompanied by a correspondingly high price for other classes of goods produced under conditions where competition does not act. The low class of laborers which produces the cheap goods demands food of so poor a variety and of such kinds that high prices must be paid if large quantities are wanted. Monopolies, therefore, are not abolished, but merely changed in form. What the consumer gains in the low price of commodities is absorbed again by the rise in rent.

It is also a great mistake to suppose that the interests of individual consumers harmonize with those of society. The

consumer strives to increase the consumer's surplus. He wants as great a difference as possible between the cost of commodities to him, and their total utility. He seeks for the cheapest article, so as to increase his surplus. He has no direct interest in the surplus of producers, and is willing to sacrifice their surplus to increase his own. Consumers, therefore, encourage a low class of producers whose goods have a high subjective cost, but a low objective value.

But society is interested in the whole surplus. Its welfare is promoted by the growth of the producer's surplus because the whole surplus is increased by the causes that raise subjective values and lower subjective costs. The progress of society tends to make the total subjective value of all goods approach more nearly to their total utility. Hence the progress of society is at the expense of the consumer's surplus, and there is an abiding opposition between public interests and those of the consumer.

The growing importance of capital and the rise of a distinct class of capitalists brought with them yet another theory of progress. Capital is necessary to industry and is the fund from which wages are paid. Additional population can find employment only through the increased savings of the capitalists. From this it was claimed that the welfare of society, and in particular, the welfare of the laboring class depended upon the growth of capital and the encouragement and protection given to the capitalists. The capitalists also had the intelligence and energy needed to manage large industries, so that the protection of capital became a new form of encouraging enterprise.

This theory ensured progress during an important epoch in the development of industry, yet its defects soon became apparent. When complete protection from loss was given by law, a class of capitalists arose who depended entirely upon their income and avoided all the risks of industrial undertakings. There is an abundance of capital for safe investments but a scarcity of it for such where risk is involved. Stock in old industries is in demand, but new industries often languish for want of funds. Through safe investments

capitalists are gradually taken from the progressive part of the community and placed among the static classes who absorb the surplus. A new class of men arises which takes risks and pushes new enterprises, and upon it society depends for its present prosperity.

While other devices are possible by which the interests of a class may be made to harmonize with the interests of society and thus deserve encouragement, they cannot become the basis of continuous prosperity. Enough experiments of this kind have been tried to show the tendency of the favored class to become static and to give back to society less in prosperity than they take from it as surplus. Any class represents but a part of the elements needed for abiding prosperity, and when the impetus which they give to progress has in a measure exhausted itself a conflict is sure to arise between the interests of the class and those of the public.

In the progress secured through classes there is the further evil that the development of the mental qualities of the race is confined to a part of the community, and some qualities are encouraged at the expense of others of equal or greater importance to society. Individuals secure their income through a few of their faculties which become dominant in them, creating feelings which bias their judgment on public questions. The harmonious development of the race psychology is prevented, while a series of class psychologies is formed with ideals and feelings antagonistic to the general welfare.

Society, therefore, in time must become dissatisfied with its present irregular progress through indirect and costly means, and use more efficient agents to develop the mental qualities and feelings active in production. Strong social feelings with intimate social relations, a high morality with a clear perception of the advantages of credit, a lofty ideal of society with a strong feeling of hostility to selfish aggression, and active interest in the future welfare of the race with a well defined educational policy, contribute as much to the production of wealth as natural advantages or the efforts of individuals. And yet these psychical

elements get little direct encouragement in the distribution of wealth. In rent, profits, interest, and wages, individual producers get a reward largely in excess of their subjective costs, while the part reserved by society to promote the growth of mental qualities of a social origin is much less than is contributed to production. We starve our social nature to gratify our primitive feelings.

As the importance of the psychical elements of production becomes more clearly perceived, individuals will be more willing to allow the state to retain the surplus for educational purposes: and the scheme of education will be broadened until all the productive qualities and feelings in men are encouraged. This education must continue until every individual is prompted by the same social feelings, and looks upon the field of production from the same standpoint. The dominant characteristics of each class will then be a part of the psychical premises of every other class, and the feelings developed by the opposition of class interests will disappear.

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